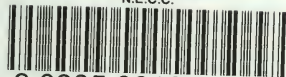


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Community College

C A T A L O G

1995-1997

Higher Education Coordinating Council

Richard A. Wiley of Wellesley, Chair

Robert V. Antonucci of West Falmouth, Commissioner of Education

James N. Bailey of Cambridge

Tamara P. Davis of Boston

Jane C. Edmonds of Sharon

Arthur Gelb of Lexington

M. Howard Jacobson of Shrewsbury

Catherine Wilder Labine of Wilbraham

Peter Nessen of Boston

Lynn M. Robitaille of Amherst

Michael Sentance of Concord, Secretary of Education

Edward T. Sullivan, Jr. of Attleboro

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Northern Essex Community College

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1995–1997
Catalog



Northern Essex Community College

Elliott Way
Haverhill, Massachusetts 01830
Telephone 508-374-3900

45 Franklin Street
Lawrence, Massachusetts 01841
Telephone 508-688-3181

College Directory

With the exception of the Lawrence Campus director's office, all references to buildings refer to the Haverhill Campus.

Main Numbers

Haverhill Campus 508-374-3900

Lawrence Campus 508-688-3181

Academic Services

Robert McDonald, Dean

Applied Science Building, 508-374-5805

Academic Support Center

David Kelley, Assistant Dean

Bentley Library, 508-374-5812

Administrative Services

Joseph Brown, Dean

Bentley Library, 508-374-3922

Admissions

Elizabeth Huntley Cole, Director

Applied Science Building, 508-374-3600

Bursar

Regina Correia-Branco, Bursar

Applied Science Building, 508-374-3895

Center for Business & Industry

Sandra Roberts, Director

Bentley Library, 508-374-3816

Lawrence Campus, 508-688-3181,

Ext. 4252

Continuing Education Services

John Peroni, Dean

Applied Science Building, 508-374-380

Cooperative Education

Mary Prunty, Associate Dean

Applied Science Building, 508-374-3722

Counseling

Elizabeth Coyne, Assistant Dean

Student Center, 508-374-3790

Development

Mary E. Wilson, Dean

Bentley Library, 508-374-3865

Financial Aid

Deborah Leduke, Assistant Dean

Applied Science Building, 508-374-3650

Lawrence Campus

Katharine Rodger, Director

508-688-3181, Ext. 4217

Personnel

Stephen Fabbrucci, Associate Dean

Bentley Library, 508-374-3923

Placement

Abbott Rice, Director

Student Center, 508-374-3670

President, Office of the

John R. Dimitry, President

Bentley Library, 508-374-3855

Registrar

Allen Felisberto, Assistant Dean

Applied Science Building, 508-374-3700

Services for Deaf &

Hard of Hearing Students

Jane Nunes, Director

Student Center, 508-374-3658

Student Activities & Campus Events

Arthur Signorelli, Director,

Student Center, 508-374-3731

Norma Ortega-Canery, Coordinator

Lawrence Campus, 508-688-3181,

Ext. 4228

Student Services

Norman Landry, Dean

Applied Science Building, 508-374-3625

Student Health Services

Patricia Kepschull, Director

Student Center, 508-374-3770

Students with Disabilities, Office for

Rubin Russell, Director

Student Center, 508-374-3654

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Accreditation

Northern Essex Community College is accredited by the New England Association of Schools and Colleges, Inc., which accredits schools and colleges in the six New England states. Accreditation by the Association indicates that the institution has been carefully evaluated and found to meet standards agreed upon by qualified educators.

Northern Essex supports the efforts of primary and secondary school officials and governing bodies to have their employees attain proper certification and their schools achieve regional accredited status to provide reliable assurance of the quality of the educational preparation of its applicants for admission.



President John R. Dimitry

Welcome by the President

Welcome to Northern Essex Community College!

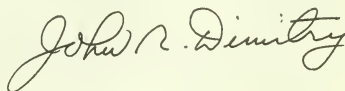
I congratulate you on making the very important, and sometimes difficult, decision to continue your education. Whether you are looking for training in a specific field or plan to transfer to a four-year college or university, your education at Northern Essex should be an ideal starting point for you.

At Northern Essex, we try to help you to achieve your goals by providing excellent faculty, well qualified in their subject matters; plenty of support services designed to give you valuable advice and academic assistance; and courses which are offered days, evenings and on weekends at our campuses in Haverhill and Lawrence and seven extension sites.

Pursuing a college certificate or degree can be a challenge, especially when juggling classes with jobs, family and other responsibilities. We recognize this at Northern Essex and are committed to providing you with the personal attention and support networks to help you succeed. For those able to participate we also offer a rich array of co-curricular activities.

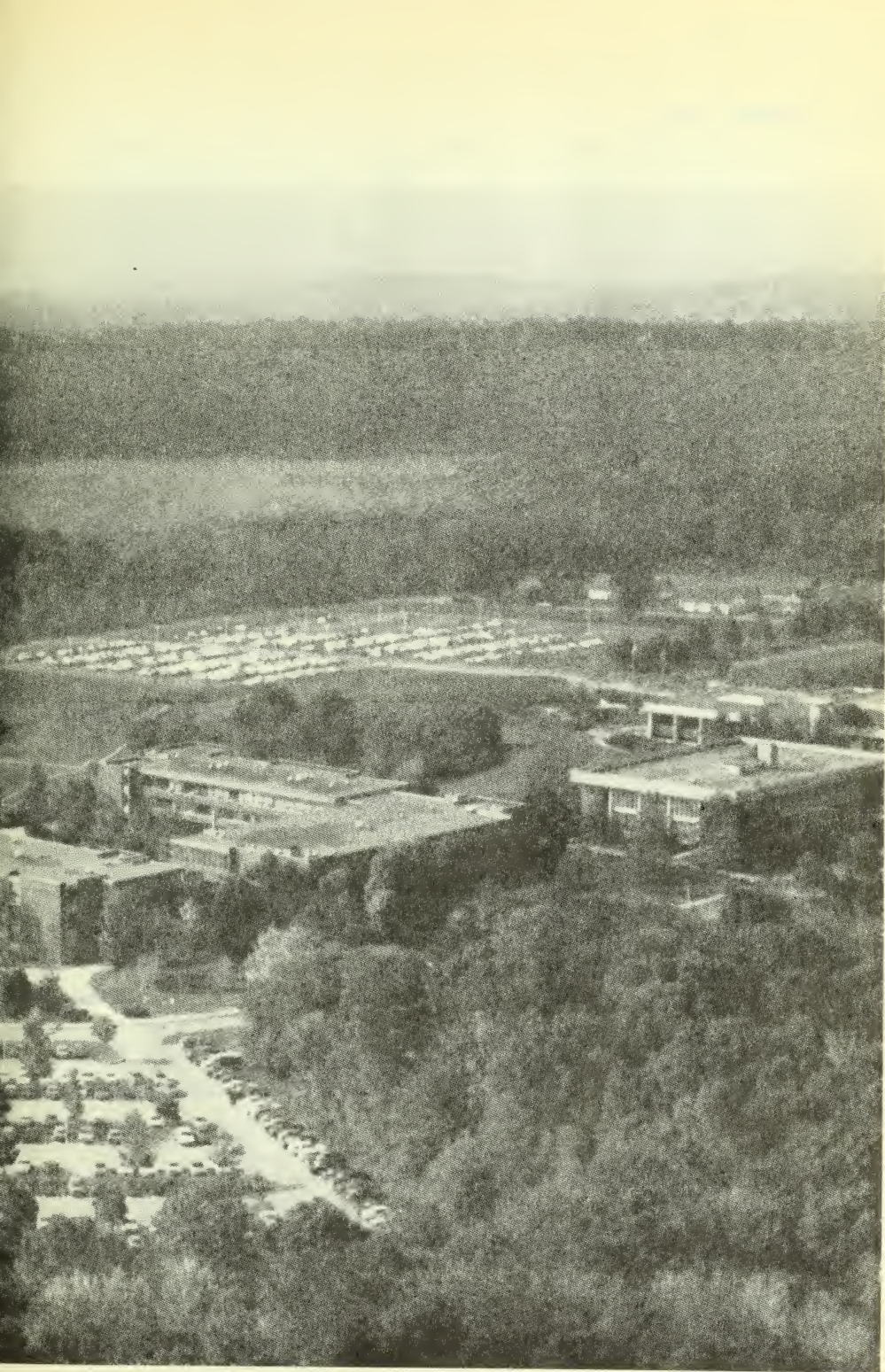
I encourage you to carefully review this catalog so that you are familiar with all of the resources available to you and can make the most of your college experience. Best of luck to you during your time at Northern Essex and beyond.

Sincerely,

A handwritten signature in black ink, reading "John R. Dimitry". The signature is written in a cursive style with a large, stylized "J" and "D".

John R. Dimitry
President of the College





Aerial View of the Haverhill Campus

Introduction

Northern Essex Community College is justifiably proud of the quality of education and services we offer to our students. Each year approximately 15,000 individuals study at Northern Essex either full- or part-time. We have a teaching faculty who concentrate their education, experience and effort in the classroom. When your education is completed, you will have the skills needed to join the thousands of Northern Essex graduates who have transferred successfully to baccalaureate programs, or who have become a part of the highly skilled business, industrial and professional work force for which New England is famous.

You will be able to study at Northern Essex at an extremely low cost. The average full-time student residing in Massachusetts spends approximately \$1000 a semester for tuition and fees excluding insurance. Part-time study is comparably inexpensive. A number of financial aid sources are available to eligible students and we are committed to helping you find a way to afford Northern Essex.

Northern Essex is a public, two-year college which offers comprehensive programs of study leading to the Associate in Arts degree, the Associate in Science degree and Certificates of program completion. Excellent facilities, solid academic support services and an active student activity program are part of the educational opportunities available at Northern Essex. Flexible scheduling and the option of completing your degree or certificate at your own pace are hallmarks of a Northern Essex education.

Programs specifically designed for transfer including Liberal Arts, Business Transfer, Engineering Science and Business Education, are offered for those students planning to work toward a Bachelor of Arts degree or a Bachelor of Science degree at a four-year institution after graduation from Northern Essex. Our graduates have consistently been successful as transfer students in public and private colleges and universities throughout the country.

Career programs are offered in the arts, business, human services, health professions, social services, the paralegal area, the technologies and office technology for those students who intend to seek employment upon completion of the associate degree. Career programs, although not designed specifically for transfer, have significant proven transfer potential.

The General Studies program is available to students who have not decided on a particular field of study and want an opportunity to explore their interests and abilities. Northern Essex especially encourages academic exploration in this program of study.

Northern Essex with its permanent campuses in Haverhill and Lawrence is an integral part of the local Merrimack Valley community. The rural Haverhill campus borders Kenoza Lake, and is just one minute from Exit 52 on Interstate Route 495. The college's second campus is located in the heart of the city of Lawrence less than ten minutes from Exit 41 off Route 495 or Exit 46 off Route 93. A broad range of academic programs, noncredit offerings and support services are available at this site. Extension campuses are located in Andover at the Greater Lawrence Technical School, Haverhill at the Whittier Regional Vocational Technical High School, Methuen at the Methuen Comprehensive Grammar School, Methuen High School,

Methuen Mall and Newburyport at Newburyport High School, and Reading at Reading Memorial High School. Our multiple locations allow for easy commuting, minimum disturbance of home and job schedules, and avoidance of expensive dormitory and food plan costs. We are in close touch with what is going on in the Merrimack Valley—we are in touch with the kinds of academic programs people want to study, the skills training the community needs and where career opportunities for our graduates are located.

Philosophy of the College

Northern Essex Community College is committed to the belief that high quality, low cost education should and can be available to everyone in the community. People of all ages and backgrounds are welcome to utilize the educational opportunities offered.

Northern Essex seeks out potential students who may not be aware of the educational possibilities around them. Age, ethnic or religious background, physical disability or past academic records are not prohibitive factors to admission. The college encourages people to consider education throughout their lives.

To implement these ideals, the college has developed and is continuing to expand a wide variety of flexible programs to meet diverse community needs. The college attempts in its programming to reflect directly the interests of business, culture, health and industry in the Merrimack Valley area.

Mission of the College

The mission of Northern Essex Community College is to serve the people of the Greater Merrimack Valley as a caring and comprehensive center of educational excellence which offers high quality, affordable adult and postsecondary education through the Associate Degree level, as well as a broad range of occupational programs and community services which enhance the social, cultural and economic life of the region.

Goals

In keeping with this mission, which it has embraced since its founding in 1961, Northern Essex commits itself, within the limits of available resources, to the following major institutional goals:

Access and Retention:

- To provide access, for both traditional and nontraditional populations, to high quality education through clearly stated academic program admissions standards and a process of timely advising including, where appropriate, mandated assessment and planned placement, which are designed to help students develop their potential and realize their individual goals.
- To provide a wide range of supportive services or reasonable accommodations to help students overcome obstacles of an educational, financial, personal, motivational, or physical nature.

- To provide quality programming for those students interested in transferring to baccalaureate degree programs and to work effectively with other educational institutions to facilitate workable transfer agreements.
- To provide quality programming in occupational areas.

Educational Excellence:

- To provide a variety of teaching methods and subjects which furnish students with sufficient background and choices to adapt to a broad range of societal changes.
- To promote excellence in teaching and to encourage the scholarly and professional growth of faculty and staff.
- To encourage experimentation and innovation in educational practices and policies and to evaluate regularly the appropriateness and quality of our academic offerings.
- To foster a climate in which learning is valued for its own sake, is appreciated as a lifelong activity and as a means for individuals to develop their intellectual, physical, ethical and social values and skills.

Multicampus:

- To become a multicampus community college which provides comparable programs and services for the community and students of each campus while preserving institutional unity, cohesion and quality.
- To identify and serve segments of the population that may require specific programming approaches, especially those who have been traditionally underrepresented in postsecondary education, and to serve such groups through curriculum development as well as through academic, financial and counseling support.
- To broaden the international and intercultural dimension of education at Northern Essex.

Participatory Governance:

- To promote ongoing educational dialogue among all college associated constituencies including students, employees, governing bodies, accreditation and advisory boards, and representatives of the community at large.
- To maintain an effective participatory internal governance system through the All College Council, a comprehensive advisory system based on a sense of institutional identity and solidarity.
- To encourage creativity and innovation in the implementation, evaluation and modification of college programs and policies through a process of frank and open communication among students, faculty, staff and administration.

Community:

- To serve as a resource to the education, business and industry, arts and science and public service communities of the Merrimack Valley.

- To foster successful career choices and job performance by promoting cooperative and experiential education opportunities, internships and clinical options in a wide variety of settings.
- To continue to interact in cooperative partnership with regional business, industry, schools and service agencies interested in improvement of the regional economy and quality of life.

Faculty

Our dedicated teaching faculty accept with enthusiasm the challenge of responding properly to the differing backgrounds of their students and, at the same time, directing and leading them toward broader understandings. Our faculty are deeply involved in the planning of each class and in the achievement of each student, and are equally dedicated to personal achievement -- nearly 90% hold advanced degrees and many hold the highest degree in their fields. Our faculty have the teaching time and the commitment to advise as well as instruct students, and to provide support and encouragement as well as specialized study opportunities.

Student Body

Approximately 15,000 students are currently enrolled at Northern Essex. About one third of these students are enrolled each semester in the college's day division. The other two thirds register each semester in the division of Continuing Education Services. Approximately 2000 individuals register for courses in both the day and evening divisions.

Our student body is a complex group. Many come here directly after high school, often from the top 25% of their class. Others bring a variety of living and job experiences to their studies. The average age of our students ranges from 26 in the day to approximately 31 in the evening.

Some are taking traditional college programs, planning to transfer to a four-year institution after graduation. Some are enrolled in associate degree or certificate programs leading to immediate employment in specialized career fields. Some are taking remedial and developmental courses to upgrade their academic backgrounds while pursuing a degree program. Others are taking individual courses, exploring alternatives before making more formal academic decisions. Some students take special interest courses only. Large numbers of students are enrolled in nontraditional programs of study such as English as a second language courses, and certain training programs in special skills and high technology areas are designed to fit the unique training needs of individual groups of students or particular employers.

Governance of the College

In conformance with Chapter 15-A of the Laws of the Commonwealth, jurisdiction over Northern Essex Community College is shared by a local Board of Trustees and a central Higher Education Coordinating Council which governs all segments of public higher education in Massachusetts. The Board, in turn, delegates responsibility for administration of the college to the President. The President solicits advice in the decision making process from a number of sources, including a collegewide All College Council, as well as numerous programmatic advisory councils and commissions comprised of representatives from area businesses, industries, unions, social agencies and educational, public and private institutions in the Merrimack Valley.

Center for Business and Industry

The Center for Business and Industry at Northern Essex is a comprehensive regional resource serving the needs of business and industry in the Merrimack Valley, Massachusetts, New England and beyond. The Center plans and implements programs and tailors curricula to meet the unique training requirements of individual employers. The scope of the Center's activities is broad and includes workshops, conferences and consultant services in addition to a wide range of classroom training formats. All activities can be scheduled at the main or satellite campuses of the college, at the worksite, or at convenient alternative locations. Through the Center, the college is able to contribute directly and effectively to the economic vitality of the community. Its reputation for excellence, particularly in the field of Total Quality Management (TQM), has resulted in its designation as a Supplier Training Center for a consortium which includes Digital Equipment, Eastman Kodak, Motorola, SEMATECH, Texaco, Texas Instruments and Xerox.

The NECC Foundation

The Northern Essex Community College Foundation is a non-profit organization established by members of the community to provide support for the goals of the college and to expand opportunities available at the college. Incorporated in 1972, the Foundation provides scholarships, cultural events and education and community services not ordinarily available to the college community. It is the aim of the Northern Essex Community College Foundation to grow and develop into a truly significant contributor to the educational and cultural life of the college.

Gallaudet University Regional Center for New England and New York

Northern Essex is the home of the Gallaudet University Regional Center for New England and New York. The Center implements a program of services to meet the academic, social, cultural and economic needs of Deaf and Hard of Hearing persons in the service area. The Center also disseminates information on deafness and on grants relating to deafness to appropriate agencies and individuals, and serves as a resource for persons and agencies involved in services for Deaf persons.

Alumni Relations Office

The Alumni Relations office plans a variety of social events for alumni including social, cultural and educational programs; reunions and award ceremonies. It also showcases the accomplishments of successful and interesting alumni, particularly in *Report NECC*, a college periodical it helps produce for mailing two times a year. Contact the Alumni Relations office to learn of the many benefits available to alumni.

Alumni Association

The Northern Essex Community College Alumni Association was founded in 1971 to promote the interests of NECC alumni and to foster an ongoing relationship between the college, its graduates and the community. The Alumni Association Board of Directors meets every other month to plan events for alumni, conduct fundraising drives, announce scholarships and other student awards and organize reunions. It is an ideal way for graduates to maintain a link with college friends and faculty and help promote the interests of other alumni and the college.



General College Policies

Mandatory Assessment and Planned Placement

Assessment at NECC is defined as a test of a student's abilities in reading, writing and math.

1. All matriculated college students will be assessed prior to registration.
2. Non-matriculated students may take no more than 6 credits before they must be assessed (unless those credits are in math or English composition).
3. Students enrolling in any math or English composition course must be assessed in that area.
4. Non-native English speakers may take a different test, but they must show proficiency in English before they can take courses which carry graduation credits.
5. Testing accommodations will be made for handicapped students in conjunction with the Office for Students with Disabilities.

Affirmative Action/Accessibility

Northern Essex Community College complies with the requirements of Title IX of the Higher Education Act of 1972 and with the Viet Nam Era Readjustment Assistance Act of 1974. Recruitment, admission, programs, activities and facilities are available to all on a non-discriminatory basis, without regard to race, color, national or ethnic origin, religion, sex, marital or parental status or handicap. The college is an equal opportunity/affirmative action employer. Northern Essex is physically accessible to all people, including those who use wheelchairs. All programs and activities are accessible to all otherwise-qualified students with disabilities. The college complies with the requirements and spirit of Section 504 of the Rehabilitation Act and the Americans with Disabilities Act of 1990.

Inquiries regarding affirmative action and accessibility policies should be addressed to the Affirmative Action/Equal Opportunity Officer, the Section 504 Compliance Officer, and/or the Americans with Disabilities Act Coordinator, Northern Essex Community College, Elliott Way, Haverhill, MA 01830.

Sexual Harassment

Sexual harassment of a student, an employee or any other person in the college is unacceptable, impermissible and intolerable. Sexual harassment is a form of sex discrimination. Such behavior is expressly forbidden by federal and state regulations and recent action by the federal government has established that such behaviors are actionable under provisions of Title VII of the 1964 Civil Rights Act and the provisions of Title IX of the 1972 Educational Amendments.

Inquiries regarding the College's policy on sexual harassment should be addressed to the Affirmative Action/Equal Opportunity Officer, Northern Essex Community College, Elliott Way, Haverhill, MA 01830.

Privacy Act Information

The Family Educational Rights and Privacy Act of 1974, as amended, insures confidentiality of educational records and prescribes the conditions under which information about students can be released to the student, parents or guardians, and authorized third parties. In addition, the Act defines the general record keeping

requirements that the institution must maintain to insure accuracy and access of student educational data. The general Provisions of the Act are basic to the following guidelines:

- Students have the right to inspect their academic record (transcript) and student file, and request corrections to data that they believe to be in error or challenge the contents of their student record. The student academic record and file includes all information as of the date of application.
- Students have the right to obtain copies of their academic records, must do so in writing, and may be charged for copies. The institution is not obligated to provide original source documents from other institutions but will provide certified copies upon request.
- Students' parent(s) or legal guardian(s) have the right to access and to copies of their children's academic transcript and record only if the child is less than 18 years of age, or they can document that the child is a legal dependent (based on Internal Revenue Service guidelines).
- The institution may refuse to provide transcripts for such reasons as nonpayment of financial obligation of debt owed the college, but students still retain the right to inspect their records.
- The institution may disclose academic and Directory Information to authorized individuals within the institution such as the student's faculty advisor, Division or Department Chairperson, Program Coordinator, Deans, Student Services Officers, Director of Health Services, and to any third party as authorized by the Act.
- Directory Information is defined as the student's current and previous name, mailing address and telephone number, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, position and salary if employed by the college, and the most recent previous educational institution attended by the student.
- A student has the right to restrict release of Directory Information in whole or part to certain parties, and must submit a request in writing to the Registrar within five days of the start of semester or session.

Additional information about this act, the specific policies of this institution, and students' rights may be obtained by contacting the Student Information Officer, Allen A. Felisberto, Assistant Dean for Registration, c/o Northern Essex Community College, Elliott Way, Haverhill, MA 01830, telephone 508-374-3700.

Financial Obligations to the College

Students are expected to fulfill the terms of any financial obligation they make to the college, and pay all of their tuition and fees bills by the posted dates. Failure to do so may result in registration (classes) begin cancelled with no guarantee of reinstatement into the same classes, and/or the College's right to prevent students or other third parties from obtaining copies of their academic record and transcript until such time that their financial obligation is fulfilled. Contact the Registrar's Office or Bursar's Office if there are any questions about this subject.

Change of Address

Students who change their mailing address or telephone number should notify the Admissions Office or Registrar's Office in writing, so that their academic records may be updated.

Firearms on Campus

It is the policy of Northern Essex Community College that no one is permitted to carry a firearm on the grounds or in a college building. The pertinent legislation, Chapter 269, section 10 of the Massachusetts General Laws states (in part) "(j) Whoever, not being a law enforcement officer, and notwithstanding any license obtained by him under the provisions of chapter one hundred and forty, carries on his person a firearm as hereinafter defined, loaded or unloaded or other dangerous weapon in any building or on the grounds of any elementary or secondary school, college or university without the written authorization of the board or officer in charge of such elementary or secondary school, college or university shall be punished by a fine of not more than one thousand dollars or by imprisonment for not more than one year, or both. For the purpose of this paragraph, "firearm" shall mean any pistol, revolver, rifle or smoothbore arm from which a shot, bullet or pellet can be discharged by whatever means.

Any officer in charge of an elementary or secondary school, college or university or any faculty member or administrative officer of an elementary or secondary, college or university failing to report violations of this paragraph shall be guilty of a misdemeanor and punished by a fine of not more than five hundred dollars."

Employees must report any suspected violation of this Policy/Law to the respective campus (Haverhill or Lawrence) Security Office, Superintendent of Buildings and Grounds or the college Dean of Administrative Services.

A law enforcement officer present as a student and wishing to carry a firearm shall obtain such written authorization. This form is available in the Office of the Dean of Academic Services and in the Office of the Dean of Student Services.

Smoke-Free Environment

Because of our collective concern for the environment, and because we are aware of the harmful effects of smoking on the smoker, and because now much is being written about the effects of second-hand smoke on the non-smoker, Northern Essex Community College is committed to providing a smoke-free environment for students, employees and visitors. All college buildings, in Haverhill and in Lawrence, shall be smoke-free.

For those who wish to smoke despite the effects to themselves or others, accommodations are available outdoors in the vicinity of each building.

A complete statement of the college's smoke-free policy is available in the Office of the Director of Student Health Services and in the Office of the Associate Dean for Personnel.

Northern Essex Community College reserves the right to withdraw or revise any provision or requirement described in the college catalog. Supplements to this document may be issued from time to time to present new or additional information.



Lawrence Campus

Admission

We encourage everyone to consider Northern Essex Community College. Almost everyone can benefit from a college education or career preparation. We want to give you that opportunity. Traditionally, people think of a college as an educational resource for recent high school graduates. This is true. However, Northern Essex Community College is much more.

- Students may enroll in a traditional transfer program and further their study at a four-year college after earning an associate degree. This allows completion of part of a student's education at a relatively low cost, and students enjoy the benefits of a dedicated teaching faculty.
- Students may enroll in an associate degree program leading to a job and career after graduation.
- Students may choose one of the job-oriented certificate programs to develop or upgrade a skill as quickly as possible.
- Students may study at their own pace, on a full- or part-time basis, days or evenings, and may begin in the fall, spring or summer.
- Students may take one or more courses to explore a field of study or enrich their leisure time.
- Students may complete their GED at Northern Essex.

Getting to Know Northern Essex

We encourage prospective students to talk with our current students and our graduates. They are pleased with their choice of college. Such satisfied students are our best recommendation.

Campus visits are encouraged. Northern Essex is readily accessible to everyone in the Merrimack Valley, and we invite the public to take a first-hand look at us. Campus tours are available, and the Admissions Office and Continuing Education Services Office staff members are ready to answer questions or refer prospective students to a staff member who will assist with making initial education decisions.

Application for Admission

Northern Essex Community College accepts without discrimination all applicants meeting the admission standards for an associate degree, certificate or other academic program. Some programs require a specific academic background for admission, others have enrollment limits. Please refer to the section on admissions standards, factors in admissions, and the program requirements listed in the catalog for more details. Applicants must be high school graduates or the equivalent, or meet ability to benefit guidelines.

Students may begin most programs in the fall, spring or summer session. For the fall session, preference will be given to completed applications received prior to January 1. Programs have various application deadlines depending upon demand. Information about current deadlines by program is available in the Office of Admissions.

Obtain an application form. Return the completed form to the Office of Admissions and request the high school and any college attended to forward an official transcript of grades to the Office of Admissions. Applications which are incomplete cannot be acted upon.

Admission Standards

Standards for admission to an academic program at Northern Essex Community College are stated in the college catalog, available at the Office of Admissions. The college reserves the right to determine the number of students to be enrolled in each program of instruction, and to utilize professional judgment in making admissions decisions.

Factors in Admission

Factors which may be considered in making admissions decisions, in addition to program standards, are:

The applicant's ability to benefit from the program; the availability of seats in the applicant's chosen program; the distance from the applicant's place of residence to the college; or the applicant's potential access to other postsecondary education opportunities.

The college reserves the right to invoke a geographical preference factor for admission to a program when it is deemed necessary. This factor may be taken into consideration with other factors to determine a program admissions decision. When invoked for a program, the geographical preference order is:

- applicants from the college's primary service area;
- applicants from the college' secondary service area;
- applicants from Massachusetts, but outside these two areas;
- applicants who are eligible for the Regional Student Program (RSP) of the New England Board of Higher Education;
- applicants from out of state; and applicants who would qualify as foreign students if accepted; that is, on F-1 status.

Contact the admissions office for information about programs which currently have a geographical preference factor in effect.

Application/Registration: Individual Courses

Northern Essex provides a comprehensive educational program with a central focus on the learning and interest needs of adults. Credit courses are offered to students interested in part time study by the day division and Continuing Education Services. Non-credit special interest courses are available in the Continuing Education Services only.

Registration for credit and non-credit courses offered by Continuing Education Services is completed by mail or in person. Tuition and fees calculated at Continuing Education Services rates are payable at registration. Registration periods are scheduled each semester for mid-semester mini-sessions and for summer session.

Classes are held at the Haverhill and Lawrence campuses and at extension campuses in Andover, Haverhill, Methuen, Reading and Newburyport.

All part time students are encouraged to consider the advantages of formal application for matriculation in a degree or certificate program as early as possible in their academic careers. Early matriculation assures that all of the courses taken are appropriate to the field of study selected. Requirements for admission must be met, except where special circumstances warrant waivers, at the time of admission. Comprehensive advising and academic assessment services are available for students.

For Further Information

All inquiries, requests for forms or other materials, or questions pertaining to application, admission and matriculation should be sent to the Admissions Office, Northern Essex Community College, Elliott Way, Haverhill, MA 01830-2397, or call 508-374-3600.

All inquiries, requests for forms or questions pertaining to registration should be sent to the Registrar's Office, Northern Essex Community College, Elliott Way, Haverhill, MA 01830-2397 or, call 508-374-3700.

Applicants with Disabilities

No pre-admissions disclosure is required of applicants with disabilities. Otherwise qualified students with disabilities are encouraged to notify the staff in the Office for Students with Disabilities of any condition which might require additional assistance or accommodations in completing their academic program. See *Office for Students with Disabilities* description.

Admission for High School Students

Students may take courses at Northern Essex for credit (on a full time or part time basis) while still in high school as participants in the College Experience for High School Seniors Program or the Advantage Program. For more information, call the Admissions Office. The number is 508-374-3600.

Foreign Students

Northern Essex Community College may accept a limited number of foreign students each year. Foreign students whose native language is other than English will be required to take an English Language Evaluation Test at the Assessment Center at the Haverhill campus, or at the Lawrence campus, 45 Franklin Street, Lawrence, MA 01840. Non-native users of English may test out of ESL classes at Northern Essex Community College by passing internal tests or by obtaining a score of 500 on the TOEFL with a 50 in the Listening Comprehension section. (TOEFL: Test of English as a Foreign Language; Educational Testing Service; Princeton, NJ)

The following are required at the time of application:

- **High School Transcript:** all courses completed in high school should be listed. The transcript must be translated into English and certified as an accurate translation of the original document.
- **College Transcript:** if applicable and translated into English and certified as an accurate translation of the original document.
- **English Language Evaluation Placement Results:** those applicants whose test results are unsatisfactory for direct entry to a degree program will be required to complete course work in the English language. Successful completion of these courses will allow students to continue in a degree program.
- **Sponsor:** Foreign student applicants must have a sponsor in the local area who is a U.S. citizen or registered immigrant.
- **Certification of Support:** in the amount of approximately \$16,000 annually in a U.S. bank. Upon registration, health insurance is required.

Transfer Credit

Transfer credit may be awarded for a course earned with a grade of C or better at another accredited institution when the course is equivalent to one offered by the college and is applicable to the Northern Essex curriculum in which the student is enrolled. Credit earned at other than accredited institutions will be evaluated on an individual basis. The Director of Admissions will evaluate all credit from other institutions. A grade given for a course transferred from another college is not computed in the quality point average at Northern Essex Community College. If credit is to be transferred from one Northern Essex Community College program of study to another, the transfer credit will be evaluated by the Assistant Dean of Registration.

Credit at Northern Essex may be granted for courses which have previously been counted toward a degree which an individual has been granted (whether baccalaureate or associate degree) provided the courses previously taken are applicable to the Northern Essex curriculum in which the student is currently enrolled.

Transfer credit for course work completed in another country is not evaluated at Northern Essex. For information on where foreign transcripts may be evaluated, call the Admissions Office. The number is 508-374-3600.

Advanced Placement

Students who take Advanced Placement courses and an Advanced Placement Test of the College Entrance Examination Board in secondary school may be awarded advanced placement and credit at the college. Credit is granted on the basis of a **three** or higher score on the Advanced Placement Test.

Articulation Credits and Placement — Cooperative Ventures with Vocational and Comprehensive Secondary Schools

Northern Essex Community College has entered into a number of articulation agreements with regional vocational schools and area high schools to grant college credits and advanced placement for superlative students who have completed advanced coursework in areas such as electronics, drafting, computer and information sciences, business, machining and tooling, health technology, math and science. This effort is ongoing, and more schools and programs are expected to be added in the future. To date, agreements have been signed with the following schools:

Amesbury High School
Georgetown Middle High School
Greater Lawrence Technical School
Greater Lowell Regional
Vocational Technical School
Haverhill High School
Lynn Vocational & Technical Institute
Methuen High School
Northeast Metropolitan Regional
Vocational Technical High School

Peabody Veterans Memorial &
Vocational High School
Salem High School, Salem, MA
Shawsheen Valley Regional
Vocational Technical School
Triton Regional High School
Whittier Regional Vocational
Technical High School

For more information, contact the guidance counselor or appropriate department head at the secondary school or the Office of Academic Services at NECC.

CLEP Credit

Northern Essex Community College awards credit in certain predetermined areas as measured by the College Level Examination Program (CLEP). CLEP information is available in the college's Assessment Center (the telephone number is 508-374-3872). Students should submit CLEP transcripts to the Admissions Office for evaluation of CLEP credit. Northern Essex will award the following CLEP examination credits earned by the achievement of the required score:

General Examinations

CLEP Exam	Credits	Semesters	Score Needed
English Composition (with essay)*	6	2	420
Mathematics	6	2	420
Humanities	6	2	420
Natural Sciences	6	2	420
Social Sciences and History	6	2	420

*Northern Essex accepts only Composition with Essay given January, April, June and October.

Tests are administered monthly except in December and February; schedules are available at the Assessment Center, Room C208, Liberal Arts Building.

Testing is by appointment only and applications will be accepted no later than 10 working days prior to the test week.

General and subject examinations may also be taken at UMass/Lowell (508-934-2480), North Shore Community College (617-593-6722), and the University of New Hampshire, Durham (603-862-2090).

Subject Examinations

CLEP Exam	NECC Equivalent	Credits	Semester	Score Needed
Intro. Accounting	AC6610/6611 Intro Accounting I/II	6	2	47
American Government	GV3313 Federal Government	3	1	47
American History I: Early Colonization /1877	HI9913 U.S. History I	3	1	45
American History II: 1865 to the present	HI9914 U.S. History II	3	1	45
Biology, General	BI5515/BI5525 Introductory Biology I & Biology II	8	2	46
Intro Business Law	LW6651 Business Law I	3	1	51
Chemistry, General	CH5501/CH5502 General Chemistry I & II	8	2	47
College Algebra & Trigonometry	MA5621 College Algebra & Trigonometry	4	1	45
College French Level 1	FR4401/FR4402 Intro French I & II	6	2	39
Level 2	FR4451/FR4452 Intermediate French I & II	12	4	45
College German Level 1	GM4401/GM4402 Intro German I & II	6	2	40
Level 2	GM4451/GM4452 Intermediate German I & II	12	4	48

College Spanish				
Level I	SP4401/SP4402 Introductory Spanish I & II	6	2	41
Level 2	SP4451/SP4452 Intermediate Spanish I & II	12	4	50
Information Systems & Computer Applications	CT6626 Introduction to Information Processing w/BASIC	4	1	52
Human Growth & Devel.	PS1205 Human Growth & Development Through Adolescence	3	1	45
Principles/Macro-Econ.	EC3323 Macro-Economics	3	1	44
Principles/Management	MG6666 Principles of Management	3	1	46
Principles/Marketing	MK6678 Principles of Marketing	3	1	50
Principles/Micro-Econ.	EC3322 Micro-Economics	3	1	41
Intro. Psychology	PS1101 Introduction to Psychology	3	1	47
Intro. Sociology	SO3321 Introduction to Sociology	3	1	47
Western Civilization I:				
Ancient Near East 1648	HI9901 Western Civilization I	3	1	46
Western Civilization II:				
1648 to the Present	HI9902 Western Civilization II	3	1	47

Credit for Life Learning

The Credit for Life Learning policy provides the opportunity to award college credit to students who demonstrate that their knowledge and skills are equivalent to those gained in a course or courses offered by the college.

Students interested in credit for life learning should contact the Registrar's Office for the appropriate forms. The process for obtaining credit for life learning is individualized and may include a challenge examination, one or more personal interviews, preparation of a portfolio, and other detailed evidence that students know those things, or possess the skills, offered in a course for which Northern Essex Community College grants credit.

When the general requirements (and those requirements of the particular department involved in the process) are completed, a decision concerning the awarding of credit for life learning will be forwarded to the student and to the Registrar's Office by the Committee on Credit for Life Learning. The Registrar will enter the credit awarded on the student's permanent record indicating that the credit has been awarded and that it has been earned by the Credit for Life Learning process.

Credit earned through this process may be applied toward graduation. However, it is the policy of this college that 24 credits toward graduation must be from actual course work at Northern Essex. Credit for Life Learning may not be substituted for these 24 credits. Any student in a one-year certificate program must earn at least 12 credits at Northern Essex Community College.

Readmission to the College

Students who, for any reason, do not continue to take courses at Northern Essex must apply for readmission to the college. If they choose to return to the program in which they were formerly matriculated, they must make application for readmission to the program following the procedures of the Admissions Office and the individual academic department.

Tuition and Fees

Mandatory tuition rates for Northern Essex Community College are established by the Higher Education Coordinating Council (HECC) of the Commonwealth of Massachusetts. The Northern Essex Community College Board of Trustees authorizes discretionary fee schedules for the college. Increases in both tuition and fees may occur in future semesters and other unique fees may be charged.

Credit courses are charged at three different rates. Although most of the courses are charged at the base per credit hour rate according to student residency as shown in the chart below, some courses have been designated by the college to be charged an additional per credit surcharge fee of either \$6 or \$12 per credit.

Massachusetts Resident

(Tuition Portion: \$40 per credit hour) \$76.00

Non-Resident Qualifying for the New England Regional Student Program

(Tuition Portion: \$60 per credit hour) \$98.00

Non-Resident and Foreign Student (F-1 Visa/living with immediate family)

(Tuition Portion: \$188 per credit hour) \$224.00

Surcharge Fee Per Credit Hour Cost

Category A (Laboratory, equipment and personnel dependent courses) \$12.00

Category B (Class time, class size and personnel dependent courses)..... \$6.00

Nursing Courses –Non-State Supported (Evening), only

Massachusetts Resident–Per credit hour \$129.00

Non-Resident–Per credit hour \$175.00

Non-Credit Courses

Non-credit or special interest courses are offered through the Division of Continuing Education Services. Tuition for these courses varies, depending upon length of course; materials fees may be required.

Additional Fees That May Apply

Mandatory Health Insurance—Academic year 9/1/95 through 8/31/96 \$336.00

Malpractice Insurance Fee—For courses requiring this coverage \$14.50

Testing Fees— Charged to a limited number of allied health courses variable

Graduation Fee— Non-refundable \$25.00

Transcript Fee— Per copy \$1.00

Bad Check Fee— Per bad check \$10.00

MASSPIRG— Per semester (optional fee, State-Supported courses only) \$5.00

S.S.A.M.— Per semester (optional fee, State-Supported courses only) \$2.00

Refund Policy

Credit Course:

Percent of Refund:	Full Semester Course:	8 Week (or less) Course:
100% of tuition and fees for course if dropped	Within 7 calendar days from start date of the course.	Prior to the 2nd class meeting for that course.
50% of tuition and fees for course if dropped.	After 7th day & through 14th calendar day from start date of the course.	Prior to the 3rd class meeting for that course.

Financial Aid Recipients: For financial aid recipients who are *first time* credit course enrollees at Northern Essex Community College, the refund policy is applied according to current federal regulations. For further information contact the Financial Aid office.

Non-Credit Course:

100% of *tuition and fees* if dropped prior to first class meeting.

50% of *tuition only* if dropped prior to the second class meeting.

Important Tuition-Related Notes

Note: Information regarding Financial Aid Tuition Waivers; Veterans, National Guard and Gold Card Tuition Exemptions; and State Employee Tuition Remissions is subject to change.

Residency and Tuition

Students must be legal residents of Massachusetts to be eligible for the in-state (resident) tuition rate. Non-residents pay a non-resident tuition rate set by the Higher Education Coordinating Council. Fees are set by the Board of Trustees. In general, one is considered a Massachusetts resident if one has been in continuous residence in Massachusetts for six months immediately prior to the beginning of an NECC academic term and has established a domicile in Massachusetts. Foreign students are not eligible to be Massachusetts residents. For more information about residency, write the Director of Admissions, Northern Essex Community College, Elliott Way, Haverhill, Massachusetts 01830, or call (508)374-3600. For more information about tuition and fees, write to the Bursar, Northern Essex Community College, Elliott Way, Haverhill, Massachusetts 01830, or call (508)374-3895.

New England Regional Student Program

This program is available only for certain state-supported programs of study. Prospective students may be eligible for participation in the New England Regional Student Program (RSP) if a program of study is not offered in their home state, if Northern Essex Community College is closer to their legal residence than their home state institution, and if the program of study is open under the RSP. Students must be legal residents of a New England state, qualify for, and be accepted through, the Regional Student Program (RSP) of the New England Board of Higher Education to be eligible for the NERSP Non-Resident rate. For more information about the New England Regional Student Program, write the Director of Admissions, Northern Essex Community College, Elliott Way, Haverhill, Massachusetts 01830, or call (508)374-3600.

Mandatory Health Insurance

The Massachusetts Mandatory Health Insurance Law requires that all students carrying nine credits or more must participate in the *Massachusetts Regional Community Colleges' Student Accident and Sickness Insurance Plan* or in a health insurance program with comparable coverage. Students who have comparable coverage may waive this fee. Students carrying fewer than nine credits may participate. For questions concerning coverage, call Blue Cross and Blue Shield at 1-800-424-0794.

Financial Aid Tuition Waiver Awards

Tuition Waivers, awarded by the Financial Aid Office to Massachusetts residents **only**, may be used to defray tuition costs at the rate of \$40.00 per credit. Financial Aid Tuition Waivers may be applied to both State-Supported and Non-State-Supported courses, although this policy may be subject to change.

Massachusetts National Guard Tuition Exemptions

Members in good standing of the active Massachusetts Army or Air National Guard, are eligible for tuition waiver in accordance with Chapter 15A and Chapter 33 of the Massachusetts General Laws. This tuition waiver may be used to pay for **State-Supported courses only**, at the rate of \$40 per credit to a maximum of 30 credits (or \$1,200) per academic year.

Veterans' Tuition Exemptions

Veterans' Tuition Exemptions may be used to defray costs at the rate of \$40.00 per credit. Any veteran who served during a wartime conflict should check with the Veterans' Benefits Coordinator in the Registrar's Office to determine eligibility for this program.

Gold Card/Senior Citizens Exemptions

Any student aged 60 or older, who is a Massachusetts resident (6 months or more) may apply for a Gold Card at the Registrar's Office. These students may take courses on a seat-available basis, using their Gold Card to defray costs of credit courses at the rate of \$40.00 per credit. In the case of non-credit (special interest) courses, only materials fees, if applicable, must be paid.

Commonwealth of Massachusetts Tuition Remissions

Tuition Remission (Exemption) benefits offered to certain state employees and their dependents are applicable in the State-Supported (Day Division) courses at the rate of \$40.00 per credit and in Non-State Supported (Continuing Education Services) courses at the rate of \$20.00 per credit.

Installment Plan

Since Fall 1990, Northern Essex Community College has offered the Academic Management Services Plan (A.M.S.) for those students who might prefer to budget their college expenses. This plan is made available in the Fall and Spring semesters, at a cost of \$30.00 per semester. There are no other interest or fee charges. By enrolling in this plan, students may pay their semester cost in four equal installments. For the Fall semester, the payments are due in August, September, October and November, and for the Spring semester, in January, February, March and April.

Third Party Payment

Students whose account will be paid in full or in part by a third party provider such as Massachusetts Department of Rehabilitation, private scholarship, employee tuition plan, etc. must submit proof of unconditional payment guarantee with any balance owed.

MASSPIRG

MASSPIRG (Massachusetts Student Public Interest Research Group) is a non-profit environmental and consumer organization directed solely by students. MASSPIRG was founded in 1972 and now has chapters on twenty-eight campuses throughout Massachusetts. Students at Northern Essex voted to establish a MASSPIRG chapter in the fall of 1990. Some of MASSPIRG's more recent accomplishments include passage of the Massachusetts Clean Air Act, passage of legislation requiring reduced use of toxic substances, and enactment of new and used car lemon laws. MASSPIRG is able to do this work because students have voted to fund the organization through a waivable fee on their tuition bill. The \$5.00 fee per semester is collected from all Day Division students except those who choose to waive it.

S.S.A.M.

S.S.A.M. (the State Student Association of Massachusetts) is an organization consisting of students from the institutions of public higher education funded by the Commonwealth of Massachusetts. The purpose of this organization is to create a working alliance between these students through their schools in order to represent their views and concerns to the General Court, to the Commonwealth, and to the citizens of Massachusetts. The goal of S.S.A.M. is quality, low cost public higher education which is accessible to all citizens of the Commonwealth. The \$2.00 fee per semester is collected from all Day Division students except those who choose to waive it.

Audit of Classes

The cost to audit credit courses in the Day Division and in Continuing Education Services is the same rate as listed above. To audit a course, obtain a Permission to Audit form at the Registrar's Office.

Charge-A-Course (MasterCard/VISA)

Students may charge tuition and fees for courses taken at Northern Essex Community College.

Non-Payment Policy

It is the policy of the Higher Education Coordinating Council that students or former students who are listed by the Bursar's Office as having unpaid debts for tuition or other college-related charges, where said debts have not been discharged by operation of law or where deferred payment of said debts has not been agreed to by said college will not (1) be issued any diploma to which said students might otherwise be entitled; (2) be permitted to register for any program at any state college for which said students might otherwise be eligible; and (3) be furnished a certified copy of any state college transcript, although said students will be entitled, upon written request, to inspect and review uncertified copies of their transcripts.

Withdrawal from College (Day Division Students Only)

Matriculated students who have been accepted to a college program and must discontinue their studies, must officially withdraw in writing, by completing a Withdrawal from College form. Forms are available in the Admissions office and the Registrar's office. Any refund of tuition and fees will be based on the date of official withdrawal and the time periods outlined in the college's Official Refund Procedure.

Financial Aid

The function of the Office of Financial Aid is to provide information about student financial assistance programs for those students who would otherwise be unable to attend college because of economic limitations. Based on an individual's financial need, the Office of Financial Aid allocates funds to assist eligible students in paying for the cost of their college education. Assistance is provided through several sources and a student may receive a combination of more than one type of aid. The amount and type of financial aid a student receives is subject to the allocation levels of the various aid programs and is governed by federal, state and college regulations. A student must be enrolled in a degree or certificate program in order to receive financial aid.

Applying for NECC Financial Aid

To apply for all financial aid funds awarded by NECC, a student must submit a Free Application for Federal Student Aid (FAFSA), a NECC Financial Aid Verification Worksheet, and all appropriate income verification documentation. Applications are available year-round; however, due to limited funding, students are urged to apply early. Applications filed prior to April 1 for the Fall semester will receive priority. Students applying for aid for the first time for the Spring semester should complete the application process prior to November 1. The absolute deadline for application for a Federal Pell Grant for a current academic year is May 1.

How Need is Determined

Financial Aid is awarded on the basis of financial need. Financial need is the difference between the estimated cost of attendance and the calculated amount the student and family can reasonably be expected to provide based on the FAFSA. The estimated cost of attendance includes tuition, fees, books, room and board, transportation, supplies, and personal expenses. The student and family contribution is affected by taxable and untaxed income, assets, number of dependents, number in the household, the number of family members in college and other necessary or unusual expenses.

Eligibility

In order to be eligible you must meet all of the following criteria:

1. demonstrate financial need;
2. maintain satisfactory academic progress;
3. be enrolled in a degree or certificate program;
4. be enrolled on at least a half time basis (6 credits); however, students enrolled on a less than full time basis may have their financial aid reduced and some students enrolled on a less than half time basis may qualify for a Pell Grant;
5. be a U.S. citizen or eligible noncitizen
6. not owe a refund on a Federal Pell Grant or be in default on a Federal Perkins Loan (formerly NDSL), Federal Stafford Loan (formerly GSL), Parent Loan for Undergraduate Students (PLUS) or Supplemental Loan for Independent Students;
7. have a valid social security number;
8. have a high school diploma or a General Education Development (GED) certificate or must pass an independently administered test and have the ability to benefit (see Admissions);
9. be registered with the Selective Service, if required.

Financial Aid Award Package

An award package may be a combination of any of the following aid programs. A Free Application for Federal Student Aid (FAFSA) must be completed to receive consideration for these awards.

Federal Pell Grant: A program funded by the federal government. Once an applicant has completed the application process, a Student Aid Report (SAR) will be sent directly to the applicant. The award amount will be based on the student's enrollment status and the calculated family contribution. All pages of the SAR must be sent to the Office of Financial Aid before an applicant can receive a grant.

Massachusetts Need Based Tuition Waiver Program: The tuition waiver award is made to students with financial need. This award will waive the tuition charge up to the amount awarded. Financial need is determined by the Office of Financial Aid using the federally approved needs analysis system. Students receiving this award may be limited to waiving tuition for state-supported classes. Recipients must be Massachusetts residents.

Federal Supplemental Educational Opportunity Grant: A grant for students who would be unable to attend school without this aid. This award is limited to undergraduate students. Students with a bachelor's degree are not eligible for this aid. Priority is given to Federal Pell Grant recipients.

Massachusetts State Scholarship: Awarded to needy students who are Massachusetts residents. The priority filing date is May 1st. This program is administered by the Higher Education Coordinating Council and utilizes the FAFSA as the application form.

Federal Work-Study: Provides an opportunity for students to work on campus. Funds are awarded to students with the greatest need. Jobs are on campus and attempts are made to find vocationally related positions. Students are paid every two weeks for the hours they have worked.

Federal Stafford Loan Program: A low-interest, long-term loan available through participating banks. The variable interest charge for new borrowers will be paid to the bank by the federal government while students are in school and during a six-month grace period after leaving school. This loan is based on financial need. An unsubsidized Federal Stafford Loan is available to students who do not demonstrate financial need.

Federal Unsubsidized Stafford Loan: A federally guaranteed loan available to "independent" students to help meet costs of education. Current interest rates are about 8%. The guarantee fee is 1%. Repayment begins within 30-45 days after disbursement and the term is up to 10 years with a \$50 monthly minimum payment. Some banks will allow the deferment (capitalization) of the interest and principal during enrollment periods.

Federal Parent Loan Program: A federally guaranteed loan available to parents of "dependent" students to help meet the costs of education. Features and conditions are the same as Federal Supplemental Loan described above.

The Educational Resources Institute Supplemental Loan Program: TERI loans are independent of federal funds so there is no needs test requirements and no income limits. TERI loans may be obtained for the cost of education minus other financial aid awarded, if any. TERI loan approval is based on the lender's review of the family's credit worthiness.

Satisfactory Academic Progress

The United States Department of Education has established regulations regarding satisfactory academic progress for use in the awarding of student financial assistance. These regulations provide parameters for institutions to use in establishing their specific standards of satisfactory progress for purposes of awarding student financial assistance (Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, Federal Work Study, Federal Stafford/PLUS Loan, State Student Incentive Grant Programs, and other financial aid programs offered by the college). Students who are not making satisfactory academic progress are prohibited from receiving financial aid. A complete copy of the Northern Essex Community College criteria for determining satisfactory academic progress is available in the Financial Aid Office.

Additional Scholarship Sources

In addition to the need based aid programs administered by the Office of Financial Aid, NECC students may wish to apply to one or more of the following scholarship programs. Application information is available in early Spring.

NECC Faculty Association Scholarship: For returning and graduating students with a 3.00 grade point average or greater.

NECC Foundation Scholarship: Scholarships are awarded to students with a 3.5 grade point average or greater.

NECC Alumni Association: A \$300 scholarship award is made to one or more NECC students each year.

The NECC Administrators' Association Scholarship: Two \$250 scholarships are awarded annually to students who have completed 24 credits with a minimum 3.0 QPA.

The NECC Staff Association Scholarship: A \$500 and two \$250 scholarships for a transferring student who has completed at least 48 credits with a 3.0 grade point average or greater.

Alumni Overseas Academic Program Scholarship: An annual award of \$250 to a student who will be enrolling in the Overseas Academic Program. The recipient must have a grade point average of 3.0 and have completed at least 30 credits.

The James P. "Jake" Rurak Memorial Scholarship: A scholarship to honor the memory of James P. Rurak, his efforts as a State Senator in establishing Northern Essex Community College, and his contributions to the people of the Commonwealth of Massachusetts. Established for students interested in a career in community or public service.

The Francis J. Bevilacqua Scholarship: A scholarship in honor of Francis J. Bevilacqua who spent so much of his life serving the public. Awarded to current NECC students with a 3.0 grade point average who are residents of Haverhill and who have demonstrated involvement in, or preparing for careers in, public service.

Haverhill School Committee Scholarships: The Committee makes numerous awards from seven scholarship funds to Haverhill residents entering college each year.

Massachusetts National Guard Tuition Waiver Program: Veterans' waiver of tuition is available to those who are eligible residents of Massachusetts for the last 12 months immediately prior to going to school. This waiver is applied only to the tuition portion of the bill, with no maximum; however, all fees must be paid. For determination of eligibility and program availability, contact the Veterans Affairs representative in the Registrar's Office at 508-374-3974.

City of Lowell Scholarship Grants: There are eight \$300 two-year scholarships awarded each year to entering students who are residents of Lowell.

Soroptomist Foundation Scholarships: This award is to promote upward mobility in mature women who would like to enter college after being out of the workforce for a number of years.

Dental Assistant Scholarships:

The Milton J. Myers Memorial Dental Scholarship

The Dr. Bill Gemmell Memorial Dental Scholarship

The Merrimack Valley Dental Society Scholarship

The three Dental Assistant Scholarships are to provide funds for Northern Essex Community College students interested in the dental profession who would not otherwise be able to afford a college education. Each of the three scholarships of \$400 will be awarded annually.

The Louis A. Gigliotti Memorial Scholarship (\$200) is awarded to students with disabilities in the memory of Lou Gigliotti, a student at Northern Essex.

The Raney Family Memorial Scholarship (\$200) is awarded in the memory of Margaret Raney, a former member of Northern Essex faculty and her son, Joseph.

Adonica Kelleher Memorial Scholarship: This scholarship is awarded to a disabled student from the Amesbury/Newburyport area who is majoring in Business. The award criteria is based on prior academic achievement. The award is for \$200 a year (\$100 a semester). Applications are available in early April.

Continuing Professional Education (CPE) Scholarship: This scholarship award is for a graduating student who is transferring to a baccalaureate college to major in accounting. The recipient must have earned at least a GPA of 3.0. The award amount will be at least \$200.

Edwin J. Oliveira Memorial Scholarship: A scholarship honoring Chief of Police Edwin J. Oliveira of Salisbury, MA is awarded in the amount of \$150 a course to a Criminal Justice student who has maintained a 2.0 grade point average and who is intending a career as a police or other law enforcement officer.

Veterans and Service Persons Club Scholarship: Awards for each academic year are ten \$100 scholarships for students (day or evening) who are "service connected", demonstrate financial need, earned 12 college credits in good standing and received a recommendation from a faculty member or Veterans and Servicepersons Club member. One \$500 scholarship is awarded to a "service connected" student (day or evening) with a QPA of 3.5 or better who has earned 24 college credits over the last two semesters, receives a recommendation from a faculty member and participated in extra curricular service at NECC or in the community.

The Future Educators Scholarship: A scholarship of \$100 is awarded to encourage and support students in pursuing a career in teaching. The recipient has completed a minimum of 24 credits, has a 3.0 cumulative grade point average in all college level courses.

The President Emeritus Harold Bentley Memorial Scholarship: This award for \$500 is presented annually to a Northern Essex Community College student who demonstrates excellence in oral communication skills. The purpose of the President Emeritus Harold Bentley Memorial Scholarship is to honor the character and values of President Emeritus Harold Bentley. President Emeritus Harold Bentley, president of Northern Essex from the college's founding in 1960 until his retirement in 1975, is well remembered for his strong leadership and advocacy for the community college concept; his ability to make an adventure out of commonplace happenings; his love of poetry and his ability to recite verse after verse at will.

The John H. Spurk Memorial Scholarship Award: This award for \$500 is presented annually to a matriculated student in the Liberal Arts program, who has completed 12 or more credits, is a resident of the Merrimack Valley, and has earned a grade point average of 3.2 or better. The John H. Spurk Memorial Scholarship Fund is established in honor of Dr. Spurk, Professor of History and Government at Northern Essex since 1967, who passed away in December, 1991. During his twenty-four years at Northern Essex, he nurtured thousands of students and played a key role in the development of the college.

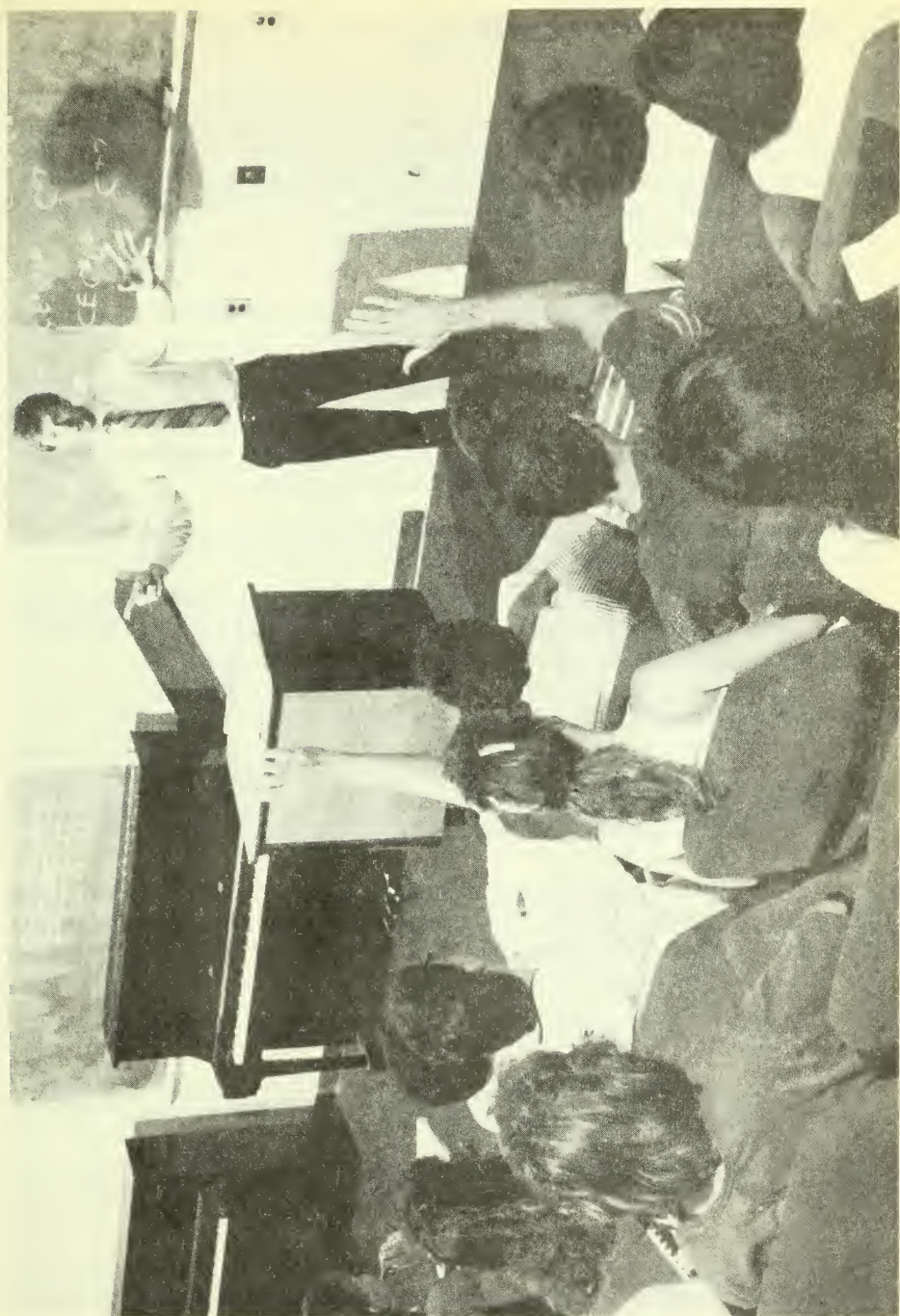
The Noela and Dennis Murphy Nursing Scholarship: This award is equivalent to the amount of the tuition and fees for Nursing III. It is offered to day nursing students entering Nursing III who demonstrate clinical expertise, compassion and caring which serves as a continuing reminder of the ideals and sensitivity displayed by Dennis and Noela Murphy.

The Friends of NECC Scholarship: Scholarships are awarded on a funds available basis (\$100 or more). Awards are to be applied toward tuition and fees or books. These scholarships are to be awarded to a returning student who has proven academic excellence (minimum 3.0 QPA) and distinctive contributions to NECC and the community.

The LPN Class Scholarship: \$250 is awarded to two students entering the final semester of the program who demonstrate financial need and have achieved a 2.5 QPA or better by the end of the spring semester.

The NECC Science and Technology Club Scholarship: An annual award of \$100 is offered to a student enrolled in a science or technology program who has completed between 24 and 40 credits with a 2.7 QPA or better.

The NECC Study Abroad Scholarship: An award of \$600 is offered to students participating in the Study Abroad academic program who have earned a minimum of 12 credits with a 3.0 QPA or more.



Advising and Counseling

Counseling

Northern Essex has a staff of professional counselors who understand the problems of the commuting student, the demands of academic life, and the uncertainties students may feel about educational planning, the details of transferring to another college for further study and selecting an appropriate career. Whether students are traditional or nontraditional, the Counseling Staff can provide counseling and consultation in the following areas:

- Career counseling: individual appointments and group workshops to assist students in choosing, changing or preparing for careers.
- Degree requirements: help with planning a course schedule which will meet degree requirements.
- Personal problems: the counseling staff is trained to help students solve personal problems, or to refer students to someone else who can help.
- Counseling is available on a walk-in basis, or appointments may be made in advance. All counseling is confidential.

Counselors are located in Room F-121 in the Student Center, Haverhill campus and Room 125 at the Lawrence Campus. To make appointments please call (508)374-3790 or (508)374-3800 for continuing education academic issues.

Academic Advising

Each matriculated student is provided with an advisor, usually a member of the college faculty, who will help the student utilize the resources of the college and the community to achieve academic, career and personal goals. Academic advising is available at all times during office hours of the Continuing Education Services Office.

Veterans and Active Duty Service Persons

Students who are veterans, active reservists, on active duty with the National Guard or eligible dependents of a veteran may be eligible for educational benefits or one of the programs summarized below:

Federal GI Benefits: Monthly allotment to eligible veterans who entered the service after July 1, 1985.

Two for One Program: Federal benefit that provides for monthly allotment to eligible Veterans who entered the service after January 1, 1977.

Chapter 106 GI Benefits: Monthly allotment to eligible Active Duty National Guard or Active Duty Reservist who entered the guard or reserves after July 1, 1985 with a six year obligation.

State Tuition Exemption Program: A benefit available to certain categories of Veterans who served during a conflict and have resided in Massachusetts for at least one year immediately prior to going to school. Any Veteran who served during a wartime conflict should check with the Veterans' Benefits Coordinator in the Registrar's Office to determine eligibility for this program.

For more information about veterans services and benefits, contact the Registrar's office, phone 508-374-3974.

Cooperative Education

The Office of Cooperative Education, located in Room C-310 in the Spurk Building (C Building), provides students with information on how they may integrate classroom learning with paid or voluntary work experience. Cooperative education courses offer three elective credits for completion of five on-the-job work objectives related to a student's academic studies. For more information, call the Cooperative Education Office at 508-374-3722.

Placement-Student/Alumni Employment

The Placement Office is located in the Student Center and provides comprehensive services to students looking for assistance in obtaining employment. The office includes a Career Resource Library, credential files and staff to assist those seeking employment. The office provides information needed to help students understand the implications of their educational and vocational decisions. Placement Office services include:

- A listing of full time and part time jobs that have been sent to the college by area employers. Many of these jobs are directly related to academic programs and could provide students with good entry level opportunities and the necessary work experience to make it easier to obtain employment after graduation.
- Employers visit the college for recruiting purposes. Approximately three times per year, the Placement Office sponsors job fairs. These informal gatherings are popular with students and provide an opportunity to obtain career information and possible jobs.
- Assistance is provided for those seeking help in developing a resume, cover letters, and/or learning proper interviewing techniques. For more information, call the Placement Office at 508-374-3670.

Office for Students with Disabilities

The Office for Students with Disabilities (OSD) exists to help the college meet the special needs of students who have physical, emotional, sensory and learning disabilities and chronic diseases. The OSD provides such services and auxiliary aids as are necessary to enable all otherwise-qualified students with disabilities to participate to the fullest extent possible in all college programs and activities.

The OSD maintains close working relationships with the various vocational rehabilitation agencies, often serving as an advocate for students' educational planning and related services. All public buildings on campus are equipped with necessary ramps, elevators, electric door openers and accessible restrooms. As needed, the OSD staff works with individual students and instructors to help meet the particular demands of each class.

Some of the support services available to students who have disabilities include: priority registration and preferential parking; special academic and career guidance; supportive counseling; special emergency evacuation procedures; and trained and supervised, paid notetakers.

Additional assistance or coordination sometimes needed by students who have severe or chronic emotional disabilities is available.

The OSD provides notetakers, laboratory aides, scribes and readers for in-class work or tests, at no expense to the student, when appropriate due to manual or visual impairments, specific learning disabilities, traumatic brain injuries or attention deficit disorder. Special testing accommodations are provided for those who need additional time, special equipment or reduced-distraction environment.

The OSD maintains an Adaptive Equipment Teaching and Testing Facility which includes computers with large-print screen displays and speech and braille output, head-movement controlled input, print scanning for conversion to large print, braille and/or speech, and a 20" VGA split-screen CCTV display. A variety of specialized software is available for student use.

The Social Club provides an opportunity to develop leadership and social skills in a supportive, nurturing environment: "Make New Friends, Learn New Skills, Have Good Times, Do Good Deeds."

Prospective students and their parents and/or service providers are encouraged to visit the campus as early as possible during the year before planned entry to NECC.

An application for OSD services, documentation of disability and a personal interview with OSD staff are required prior to the delivery of special services. Consultation with, and/or authorization from outside agencies or individuals may be required prior to the delivery of services. For these reasons, it is essential to begin the process *as early as possible*.

The OSD is located in the Student Center Building on the Haverhill campus (ramped entrance facing the Bentley Library Building). Appointments are available at the Lawrence campus upon request. For an interview and tour of the campus, or for additional information, please call: voice: 508/ 374-3654; or TTY: 508/ 374-3656, for services related to disabilities *other than* hearing impairments.

Special Services for Deaf and Hard of Hearing People

Northern Essex Community College has a strong commitment to meeting the special needs of students and provides extensive support services to individuals who are Deaf or Hard of Hearing. Currently, there are about 40 Deaf or Hard of Hearing students enrolled who come to the college from throughout Massachusetts. Our professional staff provides comprehensive support services including a full time director, a counselor who is fluent in American Sign Language, interpreting services that provide sign language or oral interpreters, and notetaking services which provide the opportunity for Deaf and Hard of Hearing students to participate actively in class. The college maintains a close working relationship with the Massachusetts Rehabilitation Commission, Health and Education Services and the North East Independent Living Program of Lawrence which provides independent living skills assistance to students within northeastern Massachusetts. For more information, call 508-374-3658 for both voice and TTY/TDD.

Student Health Service

The Health Service provides first aid care, crisis intervention, health counseling and referrals to a variety of agencies in the surrounding communities. All services and supplies are free of charge to students.

A major emphasis of the Health Service is preventive health education. The Health Service provides on-going outreach health clinics including health screenings, health education and referrals to community health resources. Special emphasis is given to AIDS education and information as well as drug and alcohol education and prevention.

For information about scheduled hours, call 508-374-3770 (Haverhill) or 508-686-3181 extension 4204 (Lawrence).

The Health Service staff is available during office hours to respond to emergencies. All emergencies should be reported to the switchboard operator who will page a nurse. At other times, and for serious illnesses or injuries, a community-based ambulance service is used for transportation to nearby area hospitals.

A student may be asked to complete a form describing general health, health history and any supportive services that may be required before services are rendered. For practicum/clinical placement, more complete health records are required. Students will not be allowed to participate in the clinical portion of their program until all information is on file.

Universal Health Care Bill in Massachusetts: MGLS, Section 21 requires every public and independent institution of higher education in the state to ensure that all full-time and three-quarter time students are covered by health insurance which satisfies minimum requirements established by the Department of Medical Security as of September 1, 1989. Students will not be able to enroll without taking this insurance or showing they are covered by another plan. The student health insurance plan is optional for students taking less than 9 credits.

Child Care Service

In Haverhill

Professional child care services are available at the Haverhill campus at Little Sprouts Child Enrichment Center located in the Gymnasium Building. From the indoor space which promotes discovery and learning to the custom-designed outdoor playground, the Center is an ideal environment for children. The Center offers full day care, 7:15 a.m. to 5:15 p.m. for children from six weeks of age through kindergarten. Full, part time and flexible childcare hours are arranged to meet individual needs. Tuition assistance is also available to those eligible for the state-funded voucher program to student parents who meet financial assistance eligibility guidelines, and through the Allen M. Tye Scholarship Fund. For more information, call 508-374-6133.

In Lawrence

Regular and drop in child care is available at the Campus Learning Center located at the Lawrence Campus. The Campus Learning Center offers quality child care during daytime hours and quality baby-sitting during the evenings in a facility specially designed for children.

Care is available Monday through Friday from 8:00 a.m. to 1:00 p.m.; afternoons from 1:00 to 5:00 p.m. and Monday through Thursday evenings from 6:00 to 9:30 p.m. Tuition assistance is available for those demonstrating financial need. For more information, contact the Director at 508-689-9980.

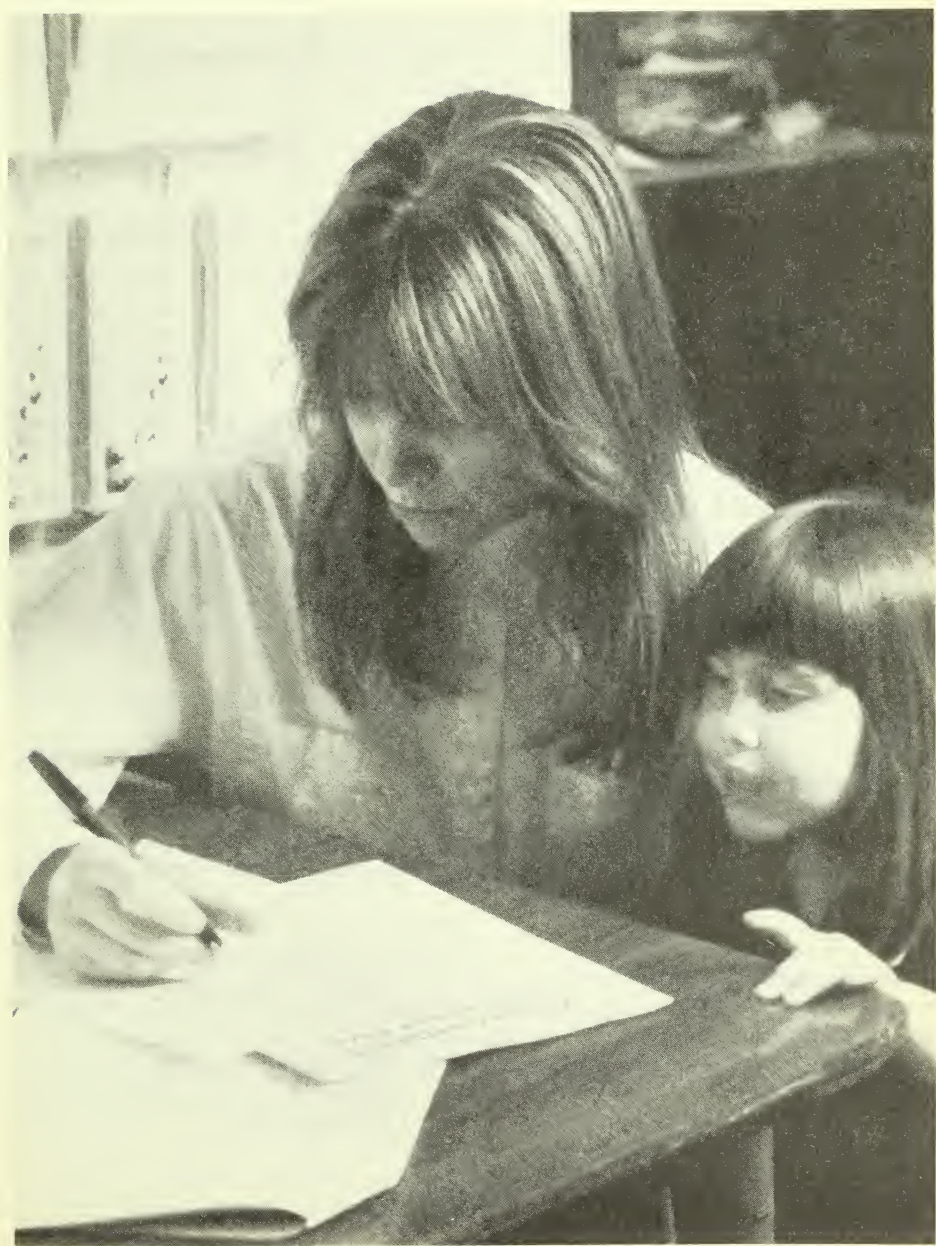
Other Resources and Referrals

Childcare Circuit: Provides referrals to openings in licensed childcare centers in the Merrimack Valley and helps parents locate and evaluate suitable services. There is a nominal fee, but you may qualify for a waiver. Information can be obtained at the Childcare Circuit, 190 Hampshire Street, Lawrence, MA 01840, telephone 508-686-4288.

Family Day Care: Information about services and programs can be obtained by calling the Greater Haverhill Family Day Care Associates local volunteer referral service coordinators at 508-521-0272 or 508-372-8141.

Tuition Assistance: Available to those eligible for the Day Care Voucher Reimbursement Program. Contact the Childcare Circuit, 190 Hampshire Street, Lawrence, MA 01840, 508-686-4288.

Special Problems: Judith Tye, Coordinator of Early Childhood Education at NECC, is available to help those who have questions or particular problems connected with childcare needs. The Early Childhood office is located in the Spurk Building, Room C-380, telephone 508-374-5890.



Student Life

The Student Center and Gym serve as the base for co-curricular activities at Northern Essex. A variety of student offices, services, and activities are located in both facilities.

Co-curricular activities and services in the Student Center include the Student Activities office, Student Senate office, the student newspaper, a study lounge, the cafeteria, and the bookstore.

Offices providing essential student services include counseling, students with disabilities, placement and career services, and student health.

The gym is home of the recreation center featuring pool and ping pong tables, tournaments, intramural activities, a and wellness fitness center, video games and an intercollegiate sports program.

The Student Center also provides facilities for small concerts and movies throughout the academic year.

Student Activities Office

The function of student activities is to provide a forum for personal growth and awareness through educational, recreational, cultural and social experiences. Some of the goals of the Student Activities office are to provide students with a chance to build leadership and interpersonal skills, discover creative talents within themselves and to provide entertainment for the college community. Through involvement in the Student Government Association, academic/social/creative arts clubs, the student newspaper and literary magazine, the athletics/intramural programs or programs sponsored by Student Activities, students may develop their leadership skills, create new friendships and become more socially responsible and culturally enriched. Contact the Student Activities office for more information on how you may get involved.

Student ID Card

A student's ID is the lower left part of the course registration confirmation sent to the student. It enables students to take out library material, use intramural sporting or audio-visual equipment, gain admittance to the Gymnasium facilities including the Fitness and Recreation Center and receive discounts or free admission to events sponsored by the college. To report a lost ID, contact the Registrar's office at the Haverhill campus.

Housing

No housing facilities are provided by or supervised by the college. The Student Activities office maintains a list of housing in the immediate college area available to students. Students are expected to respect the rights of the people from whom they rent housing and conduct themselves courteously. Bulletin boards, listing housing availability, are located opposite F133 on the Haverhill campus and opposite room 134 on the Lawrence campus.

Student Government Association

The purpose of the Student Government Association is to:

1. encourage and promote the participation of all students in the affairs of student life at the Haverhill and Lawrence college campuses;
2. promote and carry out a student activities program that will serve in the best interest and welfare of the college;
3. provide opportunities for cooperation and understanding among the students, the faculty and the administration of the college; and
4. to integrate leadership, recreational civic and social experiences with students academic experiences.

All day and continuing education students attending classes before 5 pm and evening or other continuing education students who voluntarily elect to pay a student activity fee are members of the Student Government Association (SGA) and have the right to vote, be elected to the Student Senate and participate in Student Activities organizations and events. For a copy of SGA's Constitution and Bylaws or for more information on student activities and student life, contact the Student Activities offices.

Student Senate

The Student Senate is the elected body of the Student Government Association (SGA) and is governed by the SGA Constitution and Bylaws. It meets 3:30 pm on Tuesdays in Haverhill and the last Tuesday of the month in Lawrence. The Student Senate works as a team to promote the rights of students and acts on the concerns of students. It makes recommendations to the college president on how your Student Activities fees are distributed to enhance student life and encourages participation of students in all aspects of college life. Members of the Student Senate participate in national conferences, leadership retreats, seminars and community programs which provide valuable transferable skills.

Student Senate Elections

Any student, full or part time, who takes classes before 5 pm weekdays, or any evening student who pays the student activities fee is a member of the Student Government Association and may be elected to the Student Senate. Elections take place no later than the fifth week of the fall semester, and no later than the fifth week of the spring semester (if vacancies arise). Elected Senate members must maintain a 2.0 QPA or better to be elected or to continue serving on the Student Senate.

Student Senate Executive Officers

Executive officers are elected from within the Senate during the first meeting following fall elections. Elected officers include President, Vice President/Haverhill campus, Vice President/Lawrence campus, Secretary, Treasurer, Program Committee Chair/Haverhill campus and Program Committee Chair/Lawrence campus.

Student Senate Committees

Student Senate committees include an Election Committee, Bylaw Committee (adhoc), Finance Committee, and others such as Fundraising Committee and AIDS Awareness Committee as needed.

Student Development Program

The program was established by the Student Senate in 1993 for students who want to maximize their college experience by developing their leadership skills, expanding their awareness of social issues or confronting issues of importance to community college students. The program's goal is to help students explore self-directed activities which allow self-realization and growth and build a foundation of leadership and social skills that will improve the quality of their student life and be useful to them throughout their lifetime.

Funding is available for students who wish to attend off campus seminars or special events which enhance their student life experience. The Student Development Program also offers a series of seminars addressing contemporary issues of interest to community college students. Information on this year's seminars and applications for funding are available in the Student Activities Office.

Co-Curricular Activities

The Student Activities Program, supported by the Student Activities Fund, is designed to supplement, complement and interact with academic studies. Through a network of staff interaction, faculty advising, clubs, teams and other groups, students can share ideas and interests, make choices, interact and communicate, socialize, form relationships and gain confidence and self-awareness.

The Program Committee, made up of members of the Student Senate and students, sponsors a regularly scheduled entertainment series which brings group and individual entertainers to the campus.

The Student Activity Program supports student publications and more than 25 clubs and organizations ranging from dance, theatre, newspaper, to contemporary affairs and behavioral science, just to name a few. All specialized groups and clubs are approved by the Student Senate.

Varsity or Intramural Athletics

The Athletic Department offers a varied program of formal and informal recreational activities as part of its intramural program at the Haverhill and Lawrence campuses. It is hoped that through regular participation, all students will develop an appreciation of this worthwhile use of leisure time and a wholesome attitude toward physical activity. All of the programs are voluntary. Intramural offerings include 3 and 3 basketball for men and women, flag football, coed volleyball, ping pong, darts, pool/billiards, cross country running, golf, basketball free throw, spot shooting contests and other activities, such as a fall foliage mountain hike and a spring deep sea fishing trip.

Campus Guidelines

Northern Essex Community College supports a code of student rights and responsibilities designed to provide an atmosphere in which sound intellectual and academic development is possible. A detailed statement of student responsibilities and rights is available in the Office of the Dean of Student Services.

Student Absences Due to Religious Beliefs

In accordance with Section 2B of Chapter 151C of the General Laws of the Commonwealth of Massachusetts, students in an educational or vocational training institution, other than a religious or denominational educational or vocational training institution, who are unable, because of their religious beliefs, to attend classes or to participate in any examination, study, or work requirement on a particular day shall be excused from any such examination or study or work requirement, and shall be provided with an opportunity to make up such examination, study, or work requirement, which they may have missed because of such absence on any particular day; provided, however, that such makeup examination or work shall not create an unreasonable burden upon such school. No fees of any kind shall be charged by the institution for making available to the said students such opportunity. No adverse or prejudicial effects shall result to any students because of their availing themselves of the provisions of this section.

Publications

No student or group of students in connection with any publication, public performance or social activity shall use any name or designation that implies a relationship with the college without the sanction of the President of the college or the designated officers.

Substance Abuse Policy

The college complies with all state and federal laws governing the possession, use and sale of alcohol, drugs and other illegal substances on campus and at all campus-sponsored activities. In compliance with the *Drug-Free Schools and Communities Act of 1989*, the college annually distributes information and policy statements to each student and employee concerning standards of conduct, legal sanctions, health risks and programs related to its commitment to a drug-free study and work environment. Copies of this information and policy statement are available in the Personnel and Student Services offices.

Student Grievance Procedure

This procedure secures prompt and equitable resolution of student grievances. Customary channels of communication are used wherever feasible, in seeking clarification of questions of concern, before the grievance procedure is utilized. Details of the procedure are available in the Office of the Dean of Student Services.

Massachusetts Voter Registration

Mail-in affidavits for voter registration are available at all times in the Registrar's Office, Room B-216 at the Haverhill campus and Room L-100 at the Lawrence campus.

Academic Support

Bentley Library

The Northern Essex Community College Libraries serve the varied informational needs of the students, faculty and staff of the college. The Libraries support the College's academic programs and provide for the research needs of the students as well as the professional development of the faculty.

At the Bentley Library, located on the Haverhill Campus, there are over 50,000 circulating volumes, 5,000 volumes within the reference and law collections and over 400 periodical titles in microfilm and hard copy. Twenty-nine general and specialized magazine indexes provide sources for searching, and the Library has two microfilm reader/printers and two photocopiers. At the Lawrence Campus Library, there are over 1,000 nursing and allied health circulating volumes, a multi-disciplinary reference collection, and over 100 periodical and newspaper titles in microfilm and hard copy. The Library has a microfilm reader-printer and a photocopy machine.

Library patrons at both libraries can search for books by using the computerized Public Access Catalog (PAC). This database offers a complete list of Library holdings of Northern Essex and University of Massachusetts/Lowell.

The library staff provides in-depth reference service, interlibrary loans and computerized literature searching. In addition, librarians provide instruction to groups and individuals on the bibliographic research process and on strategies for locating and using library materials. Students and faculty are able to use other Massachusetts public colleges and university libraries, as well as area libraries. Additional educational resources are available through the Library's involvement in consortia that include most of the public and academic libraries in northeastern Massachusetts. A complete list of cooperating libraries is available at the circulation desk. Through interlibrary loan programs, the compilation of a serials union list in conjunction with the Merrimack Valley Interlibrary Cooperative, and by participating in a computerized cataloging system (OCLC) the Library is able to optimize its shared resources.

Professional staff are on duty during the hours the library is open. The library is closed every Sunday and all federal and state holidays.

Instructional Media Center

The Instructional Media Center works to meet the non-print needs of the college community by providing a full range of audiovisual materials and production services.

The IMC maintains a large, comprehensive collection of educational media materials in a variety of presentation formats. The materials include 16mm films, videotapes, filmstrips, slide programs, audio cassette tapes, records, and overhead transparencies. A software catalog is available at the IMC.

Production services include television, photographic, and microcomputer program development. A director, technical staff, and work-study assistants work to provide concept to completion support in the development of original learning materials.

A state of the art television facility offers both studio and remote capability as well as editing and post-production. The IMC is an origination point for the community cable television system. The IMC is open from 8 am to 9:30 pm Monday through Thursday, Friday from 8 am to 5 pm, and Saturday from 9 am to 1 pm.

Academic Support Center

The Academic Support Center assists students in developing the skills necessary to succeed in college. The Academic Support Center offers drop-in services in reading, writing and math, as well as assessment of skills, academic guidance and tutoring in the content areas. Students who are uncertain about their goals or abilities, who had an unrewarding high school experience, who are unfamiliar with the demands of college, or who need to improve their basic skills are urged to contact any of the following areas for further information or assistance.

- The *Assessment Center* helps students become aware of their ability levels in the areas of reading, writing and mathematics. Such awareness is crucial for future success in a college environment. Students and prospective students may make arrangements for assessment testing in basic skills and English as a second language, learn about developmental courses available at Northern Essex and, if qualified, make arrangements for private peer tutoring. The College-Level Examination Program (CLEP) is offered through this Center. Students who are interested in assessing and improving their academic skills are invited to visit or contact the Assessment Center, Room C-208. The number is 508-374-3872.

- *Academic Advising Services* are available to students who are unsure of their educational or career goals. Free guidance and counseling is provided for general academic questions, for career exploration. For more information, contact Academic Advising Services in Room C-201. The number is 508-374-5814.

- The *Peer Tutor Program* is a service provided to eligible students in need of help in their content area courses. For more information, contact Peer Tutoring Service in Room C-208. The number is 508-374-5809.

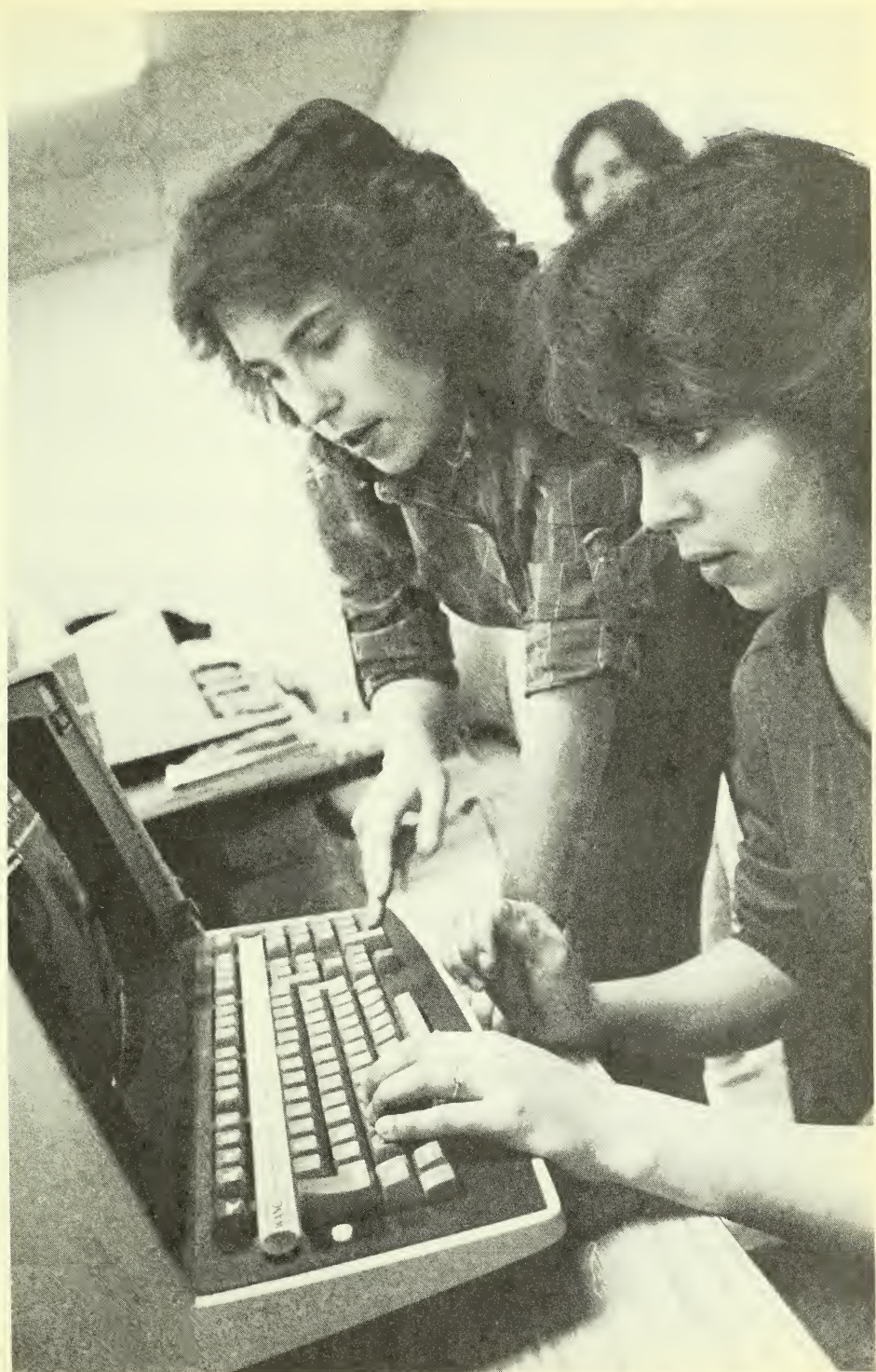
- The *English Language Center* provides tutoring support to students who need to build English language skills. For more information, contact the ELC in Room C-205 at the Haverhill campus, or at the Lawrence campus, L200. The number in Haverhill is 508-374-5821. The number in Lawrence is 508-688-3181, ext. 4318.

- The *Math Center* provides individual services to students ranging from basic arithmetic to advanced topics in calculus. Problems such as test-taking and math anxiety are addressed on an individualized basis. The services are available to all students on a drop-in basis. For more information contact the Math Center, Room C-211. The number is 508-374-3848.

- The *Reading Center* assists individuals in developing effective reading and study skills. Students enrolled in Basic Reading or College Reading are helped through the Center. An individualized course of study may also be developed. Each student receives ongoing personal attention from Reading Center staff while having the opportunity to interact with fellow students. Assistance on a drop-in or referral basis is also provided for students with specific requests. For more information contact the Reading Center, Room C-201. The number is 508-374-3844.

- The *Writing Center* provides individualized tutoring to students who need assistance with writing tasks. Intervention is offered at each step of the writing process from help with starting a paper, through the drafting of ideas, to editing a final draft. Services are available to all students on a drop-in basis. In addition, students enrolled in the Basic Writing course are helped through services provided by the Writing Center. For more information, contact the Writing Center, Room C-207. The number is 508-374-5803 or 5802.

- Set your PACE! *Pathway to Academic and Career Excellence* (PACE) is a federally funded program that will assist you in developing the personal and academic skills necessary to graduate. The services are free and include the following: registration assistance, academic support in basic skills, tutorial assistance in content area, mid-semester evaluations, mentoring, academic, career, financial aid and transfer advising, and special programs and workshops. If you are a first generation college student in need of academic and financial assistance, contact the PACE office located in Room C-212 or call 508-374-5814.



Specialized Study Opportunities

English as a Second Language

Courses in English as a Second Language (ESL) are available to assist students for whom English is not a native language and who lack the proficiency in academic English judged necessary to be successful in college level work. Upon acceptance into a degree program, applicants will be required to take an assessment test and may be required to increase general fluency and/or command of academic American English.

Any person may take the college's English As A Second Language test battery (Grammar and Structure, Oral Communication Skills, Reading, Writing) to determine if he or she may profit by taking applicable courses. Call 508-688-3181 to make an appointment.

Non-Native users of English may test out of all ESL classes at Northern Essex Community College by passing internal tests or by obtaining a score of 500 on the TOEFL with a 50 in the Listening Comprehension Section. (TOEFL: Test of English as a Foreign Language, Educational Testing Service, Princeton, NJ)

Full financial aid is available for those who qualify. A student must be enrolled in a degree or certificate program in order to receive financial aid.

NOTE: Credit for Life Learning is not offered by the college for any English as a Second Language course.

G.E.D.

Continuing Education Services offers the General Educational Development (G.E.D.) preparation course and testing program. Northern Essex is an official G.E.D. testing center and many hundreds of area citizens have qualified for high school equivalency diplomas at the college. The broadly based G.E.D. preparation course reaches out to locate people who need a high school equivalency diploma, motivates them to prepare for a G.E.D. test, suits the preparation material to the needs of the individual and provides resources for further educational development.

Cooperative Education

Cooperative Education is an experiential course which combines academic theory with hands-on experience in the student's major. Founded on the philosophy that you learn more effectively when you learn by doing, the course integrates classroom instruction with practical on the job experience. Students are usually paid for the work performed while participating in Cooperative Education.

Students interested in Cooperative Education are referred to the Office of Cooperative Education where they make application and are interviewed by a co-op staff job developer. With the assistance of the Cooperative Education staff, the student secures an appropriate job. Once employed in a co-op job, a student develops a training agreement listing objectives to be accomplished in the course during the semester. The work-site supervisor assumes the role of adjunct instructor, using the employing organization as a learning laboratory. Faculty coordinators and job developers visit the work-site during the semester and receive help from the work-site supervisor in the evaluation of the students progress. Additional course requirements include attending workshops and seminars, and writing a final paper.

Students may use credit earned in Cooperative Education as an “add-on” to the prescribed program of study, or to replace an elective within the program. Co-op courses generally are not used as substitutes for electives outside the major. However, it is the Academic Department that determines whether or not co-op credit may be used for graduation. Before registering for Cooperative Education, students should check with their academic advisor or the faculty Cooperative Education coordinator from the appropriate academic division of the college. For further information on services available, contact the Cooperative Education Office in Room C-310. Telephone 508-374-3722. Employers seeking student employees on either a full time or part time basis are encouraged to list their needs with the Office.

Study Abroad Programs

Since 1984, as a member of the College Consortium for International Studies in Washington, Northern Essex has offered study abroad programs in more than twenty countries (Bulgaria, China, Colombia, Costa Rica, Cyprus, Ecuador, England, France, Germany, Greece, India, Ireland, Israel, Italy, Jamaica, Japan, Mexico, Portugal, Russia, Spain and Switzerland). Depending on the time constraints, students can spend as long as a year or a semester, or as short as a three week period to gain academic credit while living and traveling abroad. Most programs are relatively economical, and financial aid is available for both direct costs (tuition, room and board) and indirect costs (books, fees, airfare, personal spending money). Many of the college's scholarships are applicable for study abroad programs. Northern Essex Community College and the University of Massachusetts at Lowell are co-sponsors of the India Program. For additional information contact Dr. Usha Sellers at 508-374-3969.

Disney College Program

Students participating in the Disney College Program will have an opportunity to work in a world class organization, attend training and seminar sessions given by the Walt Disney World Cast members, have an excellent reference for their resume and live in Disney World accommodations. Disney recruiters come to NECC to select and interview students. Students must be 19 years of age with at least one semester (12 credits) of college work completed to qualify. Students may select a Fall, Spring, or Summer session to participate in the Disney College Program in Orlando Florida.

High School Seniors

Students may take courses at Northern Essex for credit (on a full time or part time basis) while still in high school as participants in the College Experience for High School Seniors or the Advantage programs. For more information, contact the Admissions Office. The number is 508-374-3600.

NECCUM Cross-Registration

Students enrolled at Northern Essex Community College may cross-register at any of the other educational institutions which form the Northeast Consortium of Colleges and Universities in Massachusetts (NECCUM). NECCUM members are Bradford College, Endicott College, Gordon College, Marian Court College, Merrimack College, Middlesex Community College, Montserrat School of Visual Art, Northern Essex Community College, North Shore Community College, Salem State College and the University of Massachusetts/Lowell.

A student may register for a course at a participating NECCUM college if the course they need is not being currently offered at Northern Essex. The course must however be applicable toward their program requirements. To be eligible, a student must have a 2.0 GPA, be matriculated in a program, receive permission of the Registrar and host college, and be the equivalent of a full-time student (inclusive of NECCUM credits).

A student must get permission from the Registrar *prior to* attempting to register at the NECCUM college. If approved by the Registrar and the NECCUM college, the student will register for the NECCUM courses as though they were Northern Essex courses, and pay the tuition and fees rate at Northern Essex. Also, the student is subject to payment of any special lab or studio fees at the NECCUM college. The grades and credits a student earns at the NECCUM college will be treated as though the course was taken at the college. The Registrar will register the student for the NECCUM courses, and count the credits and grades when calculating the students enrollment status and grade point average. NECCUM registrations must be completed within seven days from the start date of the course. The drop dates and policies of this college apply to NECCUM courses.

Air Force ROTC Program

AFROTC is designed to educate and train men and women from all academic disciplines to be officers in the United States Air Force. The Air Force offers over 200 different career specialties. The ROTC program is divided into two phases: (1) the General Military Course (GMC) and (2) the Professional Officer Course (POC). The GMC lower division courses consist of one hour of class per week. The POC upper division courses consist of three hours of class per week. These courses teach solid communications, leadership, management, and organizational skills which can apply to either a military or civilian environment. In addition to the GMC and POC classes, students who are members of the Reserve Officer Training Corps or are eligible to pursue an Air Force commission must also enroll in a Leadership Lab which meets weekly.

A student must complete a minimum of two years in the POC and attend either a four or six-week field training course done normally during the summer between the sophomore and junior years. However, students are highly encouraged to participate in AFROTC for the full four years (GMC plus POC) as there are significant advantages in education and scholarship opportunities for four year cadets. For acceptance into the POC, students must pass a physical examination and fitness test, an officer qualification test, possess an acceptable academic record (2.0 or better), and be able to meet all Air Force commissioning requirements. Uniforms, equipment and textbooks required for AFROTC will be supplied free of charge.

Once all POC and academic requirements for a degree are completed, the student will be commissioned as a second lieutenant in the Air Force. Commissionees must serve at least four years on active duty. Any student may take ROTC academic classes without obligation to enter the Air Force. Students pursuing a commission, normally become obligated to the Air Force upon entering their junior year of undergraduate studies. Students on scholarship, however, do incur an obligation when the scholarship begins. Scholarships (from two to four years) are available on a competitive basis. The majority of scholarships pay full tuition and most laboratory, textbook, and incidental fees. Scholarship recipients and POC cadets receive \$100.00 tax-free each month during the school year.

Students may enroll in the Air Force Reserve Officers Training Corps (ROTC) program under an agreement with UMASS Lowell. Students may attend Air Force ROTC classes at UMASS Lowell in Lowell, Massachusetts or Daniel Webster College in Nashua, New Hampshire. Additional information on Air Force class schedules, scholarships and eligibility requirements is available by calling AFROTC Detachment 345 at UMASS Lowell, (508)934-2252.

English Language Cluster for Deaf and Hard of Hearing Students

Courses in English structure, writing and reading for Deaf or Hard of Hearing students are available to help students strengthen their English skills and to prepare them for further academic work. These courses include English Structure for Deaf and Hard of Hearing students, Writing for Deaf and Hard of Hearing students and Reading for Deaf and Hard of Hearing students, totaling up to 18 hours per week (additional hours are required in the Cluster Reading Laboratory).

Upon acceptance into a degree program, applicants will be required to take an assessment test and may be required to take one or more of these courses to strengthen basic skills. Courses are taught in American Sign Language to Deaf and Hard of Hearing students. Credit for Life Learning is not offered by the college for any English Language Cluster course.

Financial aid is available for those who qualify. A student must be enrolled in a degree or certificate program in order to receive financial aid. Cluster students are limited to one year of financial aid since this is a remedial program.

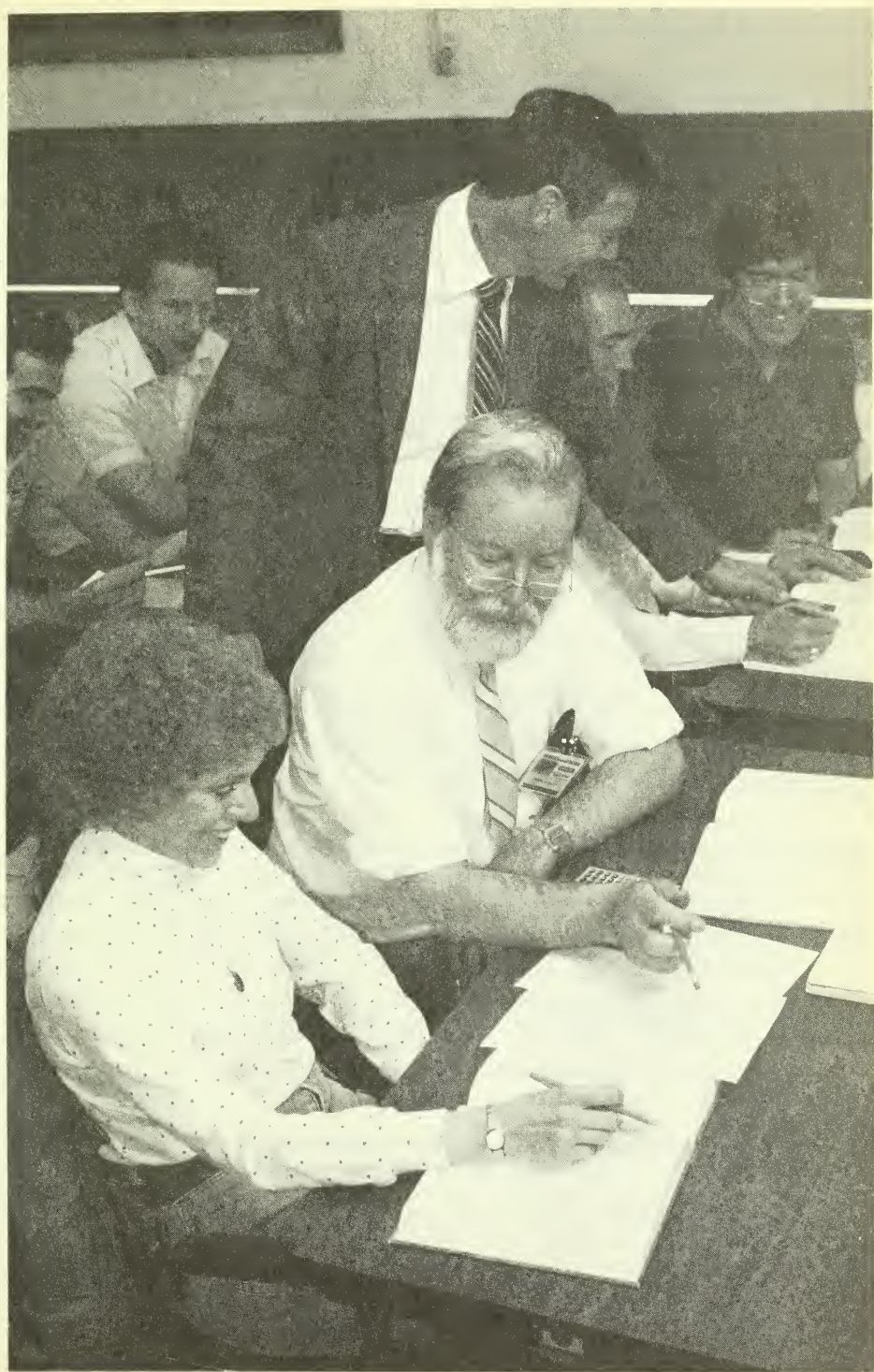
For details of this program call Services for Deaf and Hard of Hearing Students at 508-374-3865 (voice/TTY).

Continuing Education Services

The primary goal of Continuing Education Services is to help people improve existing skills or learn new ones and grow in understanding and in personal satisfaction. Credit and noncredit special interest classes are offered at the Haverhill and Lawrence campuses, at extension campuses in Andover, Newburyport, Reading, Methuen; at the Whittier Regional Vocational Technical High School in Haverhill and at various off campus sites throughout the Merrimack Valley.

Developmental courses, English As a Second Language courses, career exploration and business workshops, GED high school equivalency preparation, recreational and leisure activities, physical conditioning, enrichment in the arts, courses for singles and in self development give an idea of the range of programming. Continuing Education Unit (C.E.U.) credit is available in the health professions, early childhood education and social work.

The Center for Business and Industry provides on campus or on site training programs especially designed to meet the needs of business and industry. Continuing Education Services also sponsors workshops, conferences and courses for local organizations and agencies.



Transfer after NECC

Transfer Programs

The degree programs at Northern Essex formatted specifically for students who plan to transfer to a four-year college or university after graduation are Liberal Arts, Business Education, Business Transfer and Engineering Science. These programs parallel the first two years of similar programs in most public and private senior colleges throughout the country and provide a solid basis for transfer with advanced standing.

Career Program Transfer

Although career program courses are not specifically designed for transfer to a senior institution, they do have transfer potential. Many Northern Essex students in career programs have been accepted, after graduation, to programs in senior colleges related to their career fields.

It is the responsibility of students to select courses at Northern Essex that will be acceptable for their chosen field of study at a senior institution of their choice. Careful study of the catalog of that institution will answer most questions. Students should request from the registrar of the senior institution they select a copy of that college's catalog. Counselors at Northern Essex are readily available to help students work out transfer requirements.

Transfer Agreements

Transfer agreements exist between NECC and other colleges such as Bentley College, Bradford College, Framingham State College, Lesley College, Merrimack College, New England College, Northeastern University, Rivier College, Salem State College, Trinity College of Vermont, and the University of Mass/Lowell for transfer from specific programs at Northern Essex into specific programs at these senior institutions. For further information, contact the Admissions Office.

Commonwealth Transfer Compact

In January 1990, the Board of Regents of the Commonwealth of Massachusetts adopted the following policy effective January 9, 1990. This policy concerns all students who are transferring from a Massachusetts state community college to a four-year Massachusetts state college or university with an Associate of Arts transfer degree or an Associate of Science transfer degree:

- *Requirement for Transfer Compact Status:* A student shall be eligible for Transfer Compact status if he or she has met the following requirements:
 - a. Completed an Associate degree with a minimum of 60 credit hours exclusive of developmental coursework.
 - b. Achieved a cumulative grade point average of not less than 2.0 (in a 4.0 system) at the community college awarding the degree.
 - c. Completed the following minimum general education core, exclusive of developmental coursework.

English Composition/Writing	6 credit hours
Behavioral and Social Science	9 credit hours
Humanities and Fine Arts	9 credit hours
Natural or Physical Science	8 credit hours
Mathematics	3 credit hours

The sending institution is responsible for identifying the transcript of each student who is a candidate for transfer under this compact.

- *Credits to be Transferred:* The 35 credits in general education specified above will be applied toward the fulfillment of the receiving institution's general education requirements.

A minimum of 25 additional credits will be accepted as transfer credits by the receiving institution. These credits may be transferred as free electives, toward the receiving institution's additional general education requirements, toward the Student's major, or any combination, as the receiving institution deems appropriate.

Only college-level course credits consistent with the standards set forth in the *Undergraduate Experience* recommendations are included under this Compact. Credits awarded by the sending institution through CLEP, challenge examinations, and other life-experience evaluations for course credit may be included when the community college certifies that a student qualifies under this Compact.

- *Credits Beyond the Associate Degree:* To complete the baccalaureate degree, a student who transfers under this compact may be required to take no more than 68 additional credits unless:

- a. the student changes his or her program upon entering the receiving institution, or
- b. the combination of additional general education requirements, if any, and the requirements of the student's major at the receiving institution total more than 68 credits.

Under these circumstances, transfer students will be subject to the same requirements as native students. (The term "native student" refers to students who began their undergraduate education at the baccalaureate institution.)

A transfer student may not be held to any degree requirements at the receiving institution that were established less than three years prior to transfer admission.

- *Admission to Competitive Majors or Programs:* If, because of space or fiscal limitations, the receiving institution does not admit all qualified applicants to a given major or program, the receiving institution will use the same criteria for applicants who are transfer students under this Compact as it does for its native students.

- *Transfer Records:* The student with Transfer Compact status will be furnished by the receiving institution a list of courses to be fulfilled to earn a bachelors degree no later than the end of the semester the student enrolls. With the agreement of the student, copy will be provided to the Transfer Officer at the sending community college.

- *Student Appeals:* A student who believes that the provisions of this Compact have not been applied fairly to his/her transfer application has the right to appeal.

Academic Standards

Academic Regulations

Academic standards have been established at Northern Essex Community College to help students attain understanding, competence and excellence. Standards apply to all students enrolled in both the Day Division and Continuing Education Services except as noted below and in the section of this catalog entitled Continuing Education Services.

Matriculated Status

Once students have matriculated—been accepted by the college into one of its associate degree or certificate programs of study—they must maintain a prescribed academic standing in order to continue from one semester to another. Matriculation must occur in order to be graduated in one of NECC's programs of study.

Policies and procedures relating to academic standards in the college are handled by various administrative and student support service areas. General inquiries from matriculated students should be directed to the office of the Dean of Student Services, and those from students in Continuing Education Services to that division's office. Specific contact references are named as appropriate in the material which follows.

Academic Ethics and Plagiarism

The college expects all students to maintain high standards of academic honesty and integrity. Plagiarism is clearly an example of a violation of Academic Ethics and is a major offense.

Plagiarism is defined by the college to be the use of any other person's work or ideas as though the work or ideas were your own, without giving the appropriate credit.

Instructors are required to provide students with a clear written definition of plagiarism applicable in their discipline as part of their course syllabus, which they provide students during the first two weeks of each course.

Students are responsible for understanding what plagiarism is in each of their classes. The college's definition and that of their instructor will be used as a criterion against which all plagiarism allegations will be judged. Instances of plagiarism will be dealt with first by the instructor who discovers, or is made aware of, the incident. Instructors must discuss the evidence of plagiarism with the student prior to taking action. Instructors who take action as a result of a plagiarism incident may report such action to the Dean of Academic Services. There shall be a range of penalties at the discretion of the instructor which may extend to a recommendation to the Dean of Academic Services for expulsion from the college. The Dean of Academic Services may take disciplinary action against students who are reported for plagiarism.

Students have a right to file a grievance if they feel that the action taken in the alleged plagiarism case discriminated or abrogated their individual or student rights. Students may contact the Dean of Student Services for detailed information regarding the Higher Education Coordinating Council's Student Grievance Procedures.

Additional Associate Degrees or Certificates at Northern Essex Community College

Students may seek an additional associate degree or certificate at Northern Essex Community College by being accepted for matriculation into a new program after graduating from an initial program. Students must reapply through the Admissions Office to matriculate in the new program.

Only those credits from the initial program that are applicable to the new program will receive earned credit for the new program. Only Northern Essex Community College courses applicable to the new program will be counted in the new program QPA.

To qualify, all students must:

- Satisfy graduation requirements.
- Satisfy all of the specific program requirements.
- For those with an Associate Degree, complete a minimum of: 15 credits beyond the most recent Associate Degree to earn an additional Associate Degree; 9 credits beyond the most recent Associate Degree to earn a certificate
- For those with a certificate, complete a minimum of: 9 credits beyond the most recent certificate to earn an additional certificate; 15 credits beyond the most recent certificate to earn an Associate Degree.

Dual Program Status at Northern Essex Community College

Students may pursue dual program status by entering a course of study that will allow them to complete two programs simultaneously. Students must apply through the Admissions Office for dual program matriculation.

Students must satisfy the requirements of each program and the requirements listed under the section above—**Additional Associate Degrees or Certificates at Northern Essex Community College**.

Note: Students may not concurrently graduate from a certificate and associate degree program in the same subject matter.

The Curriculum Plan

The plan for each associate degree or certificate program of studies indicates all or some of the following:

- Specific courses, by number and title, which must be completed and the sequence in which they must be completed.
- Required types of course, such as science, mathematics, humanities, social sciences, etc., which must be completed.
- Elective opportunities (not otherwise limited by specific program requirements) where any course or courses can be chosen as long as the required number of credits to earn the degree is satisfied.

Each curriculum plan is organized and scheduled so that in most instances a student who enters in the Day Division in the fall semester can complete the program in two semesters for a certificate and four semesters for an associate degree. In some programs, such

as Liberal Arts, Business Transfer and a few others, the curriculum plan can be completed in four semesters for those who enter in January. Students are reminded that a minimum of 24 credit hours of work, and the final year of work, must be completed at Northern Essex in order for a student to qualify for an associate degree. Any student in a one-year certificate program must earn at least 12 credits in classroom activity. In most instances, the time needed to complete the requirements for evening students is about twice that of day students.

In order to meet the requirements in four semesters, a student must complete an average of at least 15 credit hours each semester. This pace involves a course load which, for a variety of reasons, is too heavy for many students. Therefore, many students take five and six semesters to complete their requirements. The college, therefore, defines a full time student as one who is carrying 12 credit hours in one semester.

Students, in consultation with advisors, select courses and create their schedule during registration. If they are not able to take the courses in the order in which they are listed in the curriculum plan, they must be certain that they have fulfilled any stated prerequisites for courses which are selected out of sequence. Senior students are given priority in registration in order to assist them in being able to select the courses which they need for graduation. Students should consult the most recent college catalog or supplement and their advisor, or a counselor before finalizing any choices. Division and department chairpersons and curriculum coordinators, names of whom are available from the Registrar, may also be consulted.

Electives:

Electives are courses not specifically prescribed in a curriculum. The definitions listed below are meant to help students make elective choices for their respective programs. Students should consult their Academic Advisor before registering for elective courses.

Elective or Free Elective: Any college level course offered at Northern Essex Community College. **N.B. All developmental courses are excluded.**

Business Elective: Any course offered by the Business Administration Department with the prefix AC, BU, EC, FI, HR, LW, MG, MK; any course offered by Office Technology Department with the prefix SL, SH, TW or any course offered by Health Information Technology Department with the prefix MR, HS.

Liberal Arts Elective: Any college level course offered by the following departments with the associated prefixes:

History and Government - GE, GV, HI

Behavioral Sciences - PS, SO

Foreign Language/Philosophy/Religion - FR, GM, IT, SP, PH, and RE

English - EN, except for Freshman Composition I & II, and HU

Creative Arts - FA, MU, TH

Math - MA

Natural Science - BI, CH, ES, PI, SC

Humanities Electives: Any college level course which falls within the areas of communications, foreign language, philosophy/religion, and creative arts as defined below.

Communications: Any course beginning with EN that is offered by the English Department *except* Freshman Composition I and II.

Literature: Any course beginning with EN containing "Literature" in the title.

Creative Arts: Any course beginning with FA, MU, or TH.

Art: Any art course beginning with FA.

Dance: Any dance course beginning with FA.

Music: Any course beginning with MU.

Theatre: Any course beginning with TH.

Foreign Language: Any course beginning with AL, FR, GM, IT, or SP.

Philosophy/Religion: Any course beginning with PH or RE.

Social Science Elective: Any course offered by the Department of History and Government and/or the Department of Behavioral Sciences or any course with the prefix of GE, GV, HI, PS or SO.

Behavioral Science: Any course offered by the Department of Behavioral Sciences or any course with the prefix of PS or SO.

History and Government: Any course offered by the Department of History and Government or any course with the prefix of GE, GV or HI.

Natural Science Elective: Any course offered by the Department of Natural Sciences or any course with the prefix of BI, CH, ES, PI, or SC. **Students need to be aware that there are 3 and 4 credit sciences. The elective/s chosen must meet the number of credits specified in the curriculum.**

Math Elective: A math elective is satisfied by any math course with a course number higher than MA5501 unless otherwise stated in a program description.

Academic Residency Requirements

In order to ensure that students attain a level of competency within the course and subject area of their program and curriculum plan, the college requires that a specific number of course credits be earned in residency at the college. Because of this requirement students who are transferring in credit from another college may, in some cases, not receive transfer credit for all courses they completed at the other college.

A minimum of 24 credits for an associate degree program, and 12 credits for a certificate program, are required in order to fulfill residency requirements. C.L.E.P. and C.L.L. credit cannot be used to fulfill residency credit. In addition, students must be currently enrolled and matriculated at the time they are fulfilling their residency requirements, and be in their final year (or semester) of course work at the time they petition to graduate.

Program/Course Requirements

When a course is listed as a requirement for a degree/certificate in a given curriculum, a student who meets the criteria may request a waiver in order to obtain the degree/certificate without taking such a course.

The student will be asked to complete the appropriate waiver available from the Registrar. Such waivers must be approved by the appropriate divisional assistant dean and the Dean of Academic Services.

Course Loads

Students are responsible for knowing what courses are required in their curriculum and for meeting all other academic requirements. In order to graduate in four semesters, students must carry the number of credit hours each semester specified in their curriculum plans. Counselors and faculty are available at registration for advising.

Taking fewer courses than curriculum specifies: students are encouraged to take the number of courses they believe they can manage with good performance. Note, however, that omitted courses or their equivalent should be taken in summer session in order to graduate in two years.

Taking more courses than curriculum specifies: students should limit themselves to the number of courses in their curriculum schedules. Students may request to take more courses in one semester than the suggested schedule if they have attained a QPA of 3.00 or higher at Northern Essex and have the approval of their advisor. Final registration approval will depend on the availability of course seats.

Note: Students who enroll in more courses than the suggested schedule may be required by the Registrar to drop a course.

Course Prerequisites

If a student does not have the necessary prerequisite for a course in which he/she wishes to register, it is necessary that the student obtain permission from the chairperson/coordinator of the academic department/program which offers the course. Waiver forms, which can be obtained from the Registrar, must be completed by the student and be approved by the appropriate department chairperson/curriculum coordinator. Approved waivers must be on file in the Registrar's office prior to the 5th day of each semester. Students will be dropped from a course if they have not met the prerequisite requirement of the course and/or have not received a waiver to take the course.

Adding a Course

A course for which a student did not register may be added to the student's schedule upon a space available basis. A student who wishes to add a course must complete the *Add* portion of the college's Registration Form which is available in the Registrar's office. Exact days, times and Procedures for adding a course are published by the Registrar at the beginning of each Day, Evening or Summer session and are noted in the Academic Calendar.

Dropping a Course

A student may drop (withdraw) from a course anytime during the semester in accordance with this policy and the respective dates listed in the College Academic Calendar. To drop a course a student must complete the *Drop* portion of the Registration Form, and submit the form to the Registrar's Office for processing. Before a student drops a course, the student should consult with his/her faculty advisor (if a Day student) and also inform the instructor of the course that he/she is dropping the course. Students who are enrolled (matriculated) in a program and plan to drop *ALL* their courses and discontinue their studies, should officially Withdraw from College. The following Withdrawal grades are assigned when a course is dropped:

Period 1: No Withdrawal grade is assigned and the course is deleted from the registration record. If a course is dropped during the official "drop and receive a refund" period. The present refund period is defined as the first fourteen calendar days for a full semester course, and for courses meeting eight weeks or less, the period of time prior to the third class meeting. For specific information about refunds, refer to the Refund Policy

Period 2: A "W" withdrawal grade, which is non-punitive is assigned to a course that is officially dropped after the end of the courses's refund period through the date specified in the current Academic Calendar. For regular semester courses a "W" grade is assigned if a course is dropped through the tenth Friday of the semester. For courses meeting eight weeks, a "W" is assigned if dropped through the fifth Friday. *Note:* A "NW" non-participation grade is assigned if the student is dropped for non-participation by the course instructor.

Period 3: A "FW" withdrawal grade which is non-punitive is assigned to a course that is officially dropped after the "W" period ends as specified in the Academic Calendar, but prior to the start of Final Examination Week. *Note:* A "NW" grade is assigned if the student is dropped for non-participation by the instructor.

Note: Students may not drop a course after Period III ends. Students who drop all of their courses will be considered to have *Withdrawn* from the College, and if matriculated, their program of studies. Students who were matriculated in a program will have to reapply for program admission per the *Withdrawing from College* policy. In addition, grades will be assigned in accordance with dates specified in the Academic Calendar and per college policy. **Note:** All "W"-type grades (see Grading System, page 64) currently carry no earned credit or quality points, but do appear on student transcripts.

The length of a Drop/Add period for accelerated or extended courses or sessions may vary, but is equivalent to the above mentioned policy, and posted accordingly. Exceptions to these policies may be made only by the Dean of Academic Services. Consult the Academic Calendar for dates relative to dropping a course. Academic Calendars are published each semester and are available at the Registrar's Office, B-219.

Special Notice About Dropping A Course or Withdrawing from College

Students who are receiving any form of Financial Aid or Veterans Educational benefits, and students participating in college sports or other activities which have eligibility criteria, should consult with the respective office PRIOR to dropping a course. Reducing hour credit load may adversely affect your eligibility to receive Financial Aid, Veterans Educational benefits, or make you ineligible to participate in collegiate sports or other activities. In addition, most private insurance companies require that students be full time (12 credits or more) to be eligible for coverage.

Repeating a Course

Students may repeat a course. In most academic programs, there is no limit to the number of times that such a course may be repeated. In each instance the highest grade received when repeating a course will be used to determine the QPA. The notation R appears on the transcript for any repeated course.

Note: Persons receiving any form of financial assistance should seek written approval from the representative of the agency providing the assistance; for example, the Regional Veteran's Administration Office, Massachusetts Rehabilitation Counselor, Financial Aid Director, etc.

Auditing a Course

Where specific program requirements do not otherwise prohibit, students may elect to enroll and attend a credit course for self-improvement or individual interest, without the responsibility of fulfilling academic assignments by auditing a course for no course credits. An audit request form, available in the Registrar's office, must be completed during the first twenty (20) days of class.

Enrollment of auditors in courses is subject to the approval of the Dean of Academic Services or Registrar and the individual faculty member concerned. An audit grade CANNOT be changed to a regular course grade. Tuition for an audited course is the same as a regular course.

Directed Studies Courses

In order to provide for a unique, highly individualized course of study for a single student, or a relatively small number of students, each academic department/program in the college offers Directed Studies courses. Such courses are designed to provide further study through directed readings, directed research projects or seminars, or special class work related to research in a specific subject. Each Directed Studies course is usually initiated in response to student interest, is limited to 5 or fewer students and should not be confused with a Special Topics course.

Special Topics Courses

Special Topics courses may be offered by any academic department/program with the approval of the divisional assistant dean responsible for that area and the chairperson of the Academic Services Committee. The divisional assistant dean, at the time he/she signs the approval form, shall forward an informational copy of the Special Topics course to the Dean of Academic Services.

Special Topics courses are normally initiated by faculty or divisional assistant deans and are created for more than five (5) students. Special Topics courses are regular semester college courses and may be from one to four credits. Classes will meet on a regular schedule.

Dates for submission of Special Topics proposals to the Academic Services Committee will follow the time schedule established by the Office of the Dean of Academic Services. Approval for Special Topics courses may be granted twice by the chairperson of the Academic Services Committee. If the proposer expects to offer the course for more than two separate semesters, a formal course proposal should be submitted to the Academic Services Committee at the same time as the second request for a Special Topics approval. Both proposals will be considered for approval in order that the course may be offered until the Academic Services Committee and President have acted.

Courses Taken at Another College While Enrolled at Northern Essex Community College

The educational design for each curriculum at Northern Essex is based on the premise that students will fulfill the requirements for a degree/certificate from courses at this college, once they have been accepted into a program. However, when a student lacks one or two courses for completing requirements at Northern Essex and problems of distance, course availability or class time make it very difficult to take the courses at this college, the student may request permission to take a course at another college.

Grades given for courses transferred from another college are not computed in the QPA average at Northern Essex.

This alternative will be approved by the Registrar only in hardship situations and is subject to the following stipulations.

- The student must complete a minimum of twenty-four (24) credit hours and the final year of course work at Northern Essex Community College to qualify for a degree.
- The student in a one-year certificate program must earn at least twelve (12) credits in classroom activity at Northern Essex Community College.
- All conditions prescribed in the student's curriculum plan are being met.
- The student provides this college with a detailed course description of the course.
- Written approval is received from the Registrar by the student before taking the course at another college.
- A grade of C or better is earned in the course.

Note: The college does not automatically approve courses to be taken at another college. Request forms and additional information are available in the Registrar's office.

Academic Standing

A student's academic standing indicates progress towards a degree. A minimum over-all average grade is required to continue from one semester to another. There are three categories of academic standing. These are described as follows:

Good Standing: Good standing is defined as follows:

- A QPA of 1.50 after attempting one to nineteen credit hours
- A QPA of 1.75 after attempting twenty to thirty-six credit hours
- A QPA of 1.90 after attempting thirty-seven to fifty-four credit hours
- A QPA of 2.00 after attempting fifty-five or more credit hours.

Probation: Probation is a warning that a student must show academic improvement in order to maintain enrollment within a program. Probation is a written warning from the Dean of Student Services. This letter states that students on probation must consult with a counselor or their faculty advisor and plan a course of studies to improve grades. Upon attaining grades of good standing, probationary status is removed. Probation status is defined as follows:

- A QPA below 1.50 after attempting one to nineteen credit hours
- A QPA below 1.75 after attempting twenty to thirty-six credit hours
- A QPA below 1.90 after attempting thirty-seven to fifty-four credit hours
- A QPA below 2.00 after attempting fifty-five or more credit hours.

Suspension: Suspension automatically drops a student from the college rolls and denies the student's eligibility to return in the following semester. Suspended students are informed in writing by the Dean of Student Services. Academic Suspension is assigned as follows:

- A QPA less than 1.00 after attempting one to nineteen credit hours
- A QPA less than 1.50 after attempting twenty to thirty-six credit hours
- A QPA less than 1.75 after attempting thirty-seven to fifty-four credit hours
- A QPA below 1.90 after attempting fifty-five or more credit hours; but less than nine credit hours beyond the total required in the student's curriculum
- A QPA below 2.00 after attempting nine credit hours beyond the total required in the student's curriculum.

Removal From Suspension

Students who are suspended as a result of unsatisfactory academic progress, may petition the Dean of Student Services to continue enrollment as a "Special Conditions Student". Students who are suspended are notified via US Mail at the end of each semester. Included with that notice is information about academic standards, counseling opportunities, what the student may do to improve the academic progress, and how the student may petition to continue enrollment.

Grading System

Letter grades are used at the college per the table listed below, and each grade has a numeric range and associated Quality Point Value. The Quality Point Value is based on a 0.00 to 4.0 range, with an "A" grade having the highest value of 4.0. Grades are used to represent the quality of work done in a course and knowledge earned, as based on the individual instructor's standards and course objectives.

The Quality Point Value is used to determine the numeric average of semester course work or of cumulative courses and grades to date. Such a computation is known as the Quality Point Average (QPA) of the grades earned to date. The Quality Point Values of a grade in combination with a credits attempted scale, is used to establish the college's Standards of Academic Progress. The grades presently in use by the college are:

Grade	QP Value	Numeric Range/Comment
A	4.00	93-100
A-	3.70	90-92
B+	3.30	87-89
B	3.00	83-86
B-	2.70	80-82
C+	2.30	77-79
C	2.00	73-76
C-	1.70	70-72
D+	1.30	67-69
D	1.00	60-66
F	0.00	59 or less; failure; no credit earned
FN	0.00	Non-participation failure grade assigned by instructor
FW	0.00	Failure due to withdrawal from course

P	0.00	Pass; credit earned
NC	0.00	No credit earned
I	0.00	Incomplete, in non-punitive period
IF	0.00	Incomplete changed to Incomplete Failure grade
W	0.00	Withdrawal from course
NW	0.00	Non-participation withdrawal grade assigned by instructor
WF	0.00	Withdrawn failure--currently not in use
WP	0.00	Withdrawn passing
NG	0.00	No grade submitted by instructor
AU	0.00	Audit; no credits earned

Listed below is an example of how the Quality Point Average of grades are computed:

Course Completed	Credits (Cr) Attempted	Grade Earned	Quality Point Value (QP)	Computation (Attempted cr. x quality points)
English Composition I	3	A	4.0	3 cr. x 4.0 QP = 12.0 QP
Introduction to French I	3	F	0.0	3 cr. x 0.0 QP = 0.0 QP
College Algebra I	3	D	1.0	3 cr. x 1.0 QP = 3.0 QP
US History I	3	B	3.0	3 cr. x 3.0 QP = 9.0 QP
Total Credits Attempted = 12			Total Quality Points earned = 24.0	

To determine the Quality Point Average (QPA) of courses completed and grades earned, divide attempted credits into the total quality points earned: 12 credits divided into 24.00 = a QPA of 2.0. In this example, the student has a QPA of 2.0, or in other words an overall "C" average.

The QPA is also cumulative. Each semester a cumulative QPA is computed by dividing the total number of credits attempted in all semesters at the college into the total number of quality points earned in all semesters at the college. (One exception to this is for those students who have transferred from one program at the college into another. In that instance, those courses which have not been applied to the new program are not considered when determining the QPA.)

Attempted credit hours include credit hours with a letter grade of A, A-, B+, B, B-, C+, C, C-, D+, D, F, WF, NF and IF. Grades of P, NC, I, W, NW, FW, WP, NG and AU are not included in the attempted credit hours. When a course is repeated the higher of the two grades will be computed in the QPA; only the credit hours for the higher grade will be included in the cumulative total of attempted hours. The transcript will record each time the course has been taken. (Refer to Repeating a Course in this section of the catalog for further details.)

Incomplete Grades

Students may receive a temporary grade of Incomplete (I) from instructors when all work in a course is not satisfactorily completed and, in the judgment of the instructor, completion of the assigned tasks would allow the student to earn a passing grade in

the course. If the instructor assigns an I, a Documentation of Incomplete Grades form must be completed by the instructor and placed in the student's folder which is maintained by the Registrar. This will clearly outline the work to be completed and the time limit. An instructor may change an I to a letter grade (other than a W grade) any time after it is assigned.

Instructors may accept late course work only when, in their judgment, there are acceptable reasons to justify such a delay. If a final examination is missed because of student inaction, as opposed to a cancellation of class or instructor inaction, the instructor may allow a make-up if, in the judgment of the instructor, successful completion of the final examination could earn the student a passing grade.

If, for any reason, the instructor has left Northern Essex permanently or for an extended period of time and is unavailable, the divisional assistant dean has the authority to change the grade using the Grade Change Form. The divisional assistant dean's decision is based upon a waiver of any existing documentation of the Incomplete. If documentation of expected work is not available, the divisional assistant dean may use his/her professional judgment to determine work to be completed and the final grade.

Incomplete grades are temporarily not computed in determining the semester and cumulative QPA. Incomplete grades (I) are automatically converted to F (Failure; no credit earned) grades at the end of the next semester, and are computed as F grades in the student's semester and cumulative QPA. The student is expected to take the initiative in seeking to complete course work necessary to change an I to another grade. An I cannot be changed to a W, NW, WP or WF grade by the instructor.

Incomplete grades are temporarily not computed in determining the semester and cumulative QPA. Incomplete grades (I) are automatically converted to IF (Incomplete, Failure, no credit earned) grades at the end of the next semester, and are computed as F grades in the student's semester and cumulative QPA. The student is expected to take the initiative in seeking to complete course work necessary to change an I to another grade. An I cannot be changed to a W, NW, WP or WF grade by the instructor.

Pass/No Credit Grade Option – Liberal Arts Program

A student enrolled in the Liberal Arts Program who has successfully earned 12 credits or more, may elect to enroll in a course under the Pass/No Credit grade option. The following criteria apply to the NC (no credit earned) grade option:

- Courses taken on Pass/No Credit basis may be used to fulfill the *elective* requirements only of the Liberal Arts degree. All *specific* course requirements must be taken for a letter grade.
- At *no time* may a grade for a course taken on a Pass/No Credit basis be converted to a letter grade.
- All credits earned for courses taken as Pass/No Credit will count towards the total credit hours required for a Liberal Arts degree, but will not be calculated into the student's quality point average.
- No more than 12 credit hours of Pass/No Credit courses may be applied toward the student's degree and no more than one course may be taken on this basis in any one semester.

- Some colleges may not permit the student to use courses taken as Pass/No Credit for transfer purposes. Responsibility for seeking information regarding the transferability of Pass/No Credit courses lies with the student (see 2 above).
- The Pass/No Credit Grade Option form must be *completed* and *submitted* to the Registrar no later than the **sixth** academic day of the semester in which the course is taken.

Approval from the course instructor is not necessary for the Pass/No Credit option. The instructor is, however, notified of your Pass/No Credit option. The Registrar may approve late applications for the Pass/No Credit option as appropriate. Pass/No Credit Grade Option forms are available only in the Registrar's office.

Changing Grades

To alter the final grade of a student, instructors must complete a Change of Grade form which contains the following information:

- Name of student; social security number
- Title of course, section number, semester earned
- Grade originally reported, new grade
- Brief but comprehensive statement of reason for making change; e.g., clerical error, error in computing the grade

Change of Grade forms are available at the Registrar's office. Instructors must submit forms in person.

Mid-Semester Grades

No mid-semester grades are issued at Northern Essex. All students, however, have the right to request written evaluations from their instructors at any time during the semester.

The Registrar's office has a mid-semester grade form available for students who wish to submit them to their instructors.

Student Academic Transcripts/Semester Grade Reports

The Registrar's Office maintains permanent transcripts for all students who earn academic credit at the college. If the student successfully completes a program of study at Northern Essex Community College, the name of the degree or certificate earned will be noted on the transcript. Transcripts are also kept for students who earn Continuing Education Units (CEU's).

Transcripts may be reviewed by students upon request, in person or in writing. Students must present an acceptable form of identification, such as a driver's license, college I.D. card, social security card, etc. Transcripts will be released to other parties only if written authorization from the student has been received. Any written request for (or release of) a transcript must contain the student's name, address, date of birth, social security number, and dates of attendance. Students will receive one free transcript or semester grade report at the end of each semester, which is mailed to them. Additional official transcripts cost \$1.00 each.

All courses taken at Northern Essex Community College are recorded as a single permanent record. Academic credits earned for all courses completed may be applied to fulfill program and degree requirements. Additional information about transcripts and permanent records is outlined as appropriate throughout this section of the catalog.

Honors

Each semester students are appointed to the Dean's List for Academic Honors if they fulfill the following requirements:

- They are candidates for a degree.
- They are carrying 12 or more credit hours within the semester.
- They attain a quality point average of 3.00 or higher within the semester.

Graduation Requirements

Northern Essex Community College awards Associate Degrees in Arts and Sciences, and Certificates to all qualified students at commencement exercises for each class. In order to receive this award, students must meet the following criteria:

- Completion of all required courses in a curriculum with a passing letter grade, or with the minimum letter grade specified for that course.
- Completion of the number of credit hours prescribed by a particular curriculum.
- Completion of final year of course work and a minimum of 24 credit hours of course work at NECC in order to qualify for a degree, and a minimum of 12 credits in classroom work to qualify for a certificate.
- Attainment of a cumulative quality point average (QPA) of 2.00 or higher.
- Completion of the petition for graduation prior to deadline date as prescribed in the Academic Calendar.
- Payment of all financial obligations at the college.

High honors are awarded during commencement to all students with a cumulative quality point average of 3.50 or higher. Honors are awarded during commencement to all students with a cumulative quality point average from 3.00 to 3.49 inclusive.

Attendance and Non-Participation

Students are expected to attend each meeting of each class in which they are enrolled. The class instructor has full and final authority to decide whether a student is permitted to make up work missed through absence, and on what terms. Students should ask each of their instructors about their respective attendance policies.

Faculty have the academic authority to remove students from their class for non-attendance or non-participation. A non-participating (NP) student is one who, because of absences, missed quizzes, tests or papers, or inappropriate classroom behavior has fallen behind the work of the class to such a degree that the instructor feels the

student is not likely to attain a passing grade. In most cases, circumstances would indicate to the teacher that the student has dropped the course but neglected to drop it officially.

When students are removed from a class due to non-participation (NP), a grade of NW (Withdrawal via non-participation) or F/NP (Failure due to non-participation) will be assigned and recorded on their transcripts. Students who are NP'd will receive a letter from the Registrar along with instructions on reinstatement procedures.

Withdrawing from College

Students who must drop all of their courses leave and discontinue their program of studies, should officially Withdraw from College. Officially withdrawing from college will ensure that the correct grades are assigned for each course. To officially withdraw from the college, a student must complete a *Withdrawal From College* Form available at the Registrar's Office.

Students who wish to officially withdraw will be advised by the Registrar's Office staff to consult with their faculty advisor (Day students) and instructor(s) prior to withdrawing. This advice is given because in some cases it may be best for the student to reduce his/her course load instead of completely withdrawing from college. When a student officially withdraws from college, the student's course(s) will be assigned Withdrawal grades as prescribed in the *Drop a Course* policy. Note: In addition to the withdrawal grades listed in the *Drop a Course* policy, instructors have the option of assigning a "WP" grade--passing at the time of withdrawal. Students who discontinue their studies and officially Withdraw from College are no longer considered to be enrolled at the college or matriculated in their program. If the student wishes to return to the college and wants to be enrolled (matriculated) in a program, the student must officially reapply for admission to a program.

Retroactive Course Withdrawals

The Dean of Academic Services is responsible for approving any retroactive course drops in a prior semester, and any retroactive withdrawal from college which affects an earned letter grade A through F.

In order to apply for a retroactive course drop or withdrawal, students must complete a Retroactive Withdrawal Petition available in the Registrar's Office. The Registrar will review the request, prepare supporting documentation if appropriate, and forward the petition to the Dean of Academic Services for consideration. If approved, the action will result in a W grade appearing on the transcript for the course(s) in the prior semester, with W grade(s) dated as of the forty-fifth academic class day of that semester.

Academic Structure

Under the leadership of the Dean of Academic Services, programs of study at Northern Essex Community College are offered through the cooperative efforts of six academic divisions, each one directed by an assistant dean. The divisions are dedicated to academic excellence, diversity, and growth and development. In addition, a Cooperative Education program and a Study Abroad Academic Program are available for qualified students.

All courses necessary to complete a program may not be available at each location every semester. Students may need to enroll in courses during the day or during the evening in order to complete program requirements. At times, courses and programs are offered for agencies/industries to meet the educational needs of their present or future employees. Some programs initially are offered with funds from a grant source for a limited time or for a specific audience.

Five divisions administer the associate degree and certificate programs of study offered at Northern Essex: the Division of Business; the Division of Humanities and Communication; the Division of Human Services and Health Professions; the Division of Mathematics, Science and Technology; and the Division of Social Sciences.

The sixth academic division, the Division of Instructional Support Services, is a multi-purpose, service-oriented division which assists students to assess and improve academic skills.

Associate Degree Programs

Northern Essex Community College offers a variety of academic programs leading to the attainment of an Associate of Arts or Associate of Science Degree. Associate degree programs carry a minimum of 60 credits and follow a required or recommended sequence of courses. These programs are carefully designed to develop the knowledge, skill, abilities and appreciation that the College has determined essential to receive degree status and are approved by the Academic Services Committee of the College prior to submission for approval by the Higher Education Coordinating Council. Many programs are accredited by appropriate boards and professional accrediting agencies. Many NECC students have been accepted into related degree programs at senior colleges. Students intending to continue their studies are encouraged to review specific college requirements with their advisors to obtain highest transferability of the NECC coursework.

Degree Options:

Specific degree options within the Higher Education Coordinating Council's approved degree programs will recommend or require a minimum of either six courses or twenty credits as defined within the college catalog and will be included on the college transcript. These options are carefully reviewed for degree applicability and have been approved by the college. Students should meet with their advisors for clarification of degree requirements and application of their transfer credits and/or work experience towards program requirements

A. Transfer Associate Degree Programs

The primary transfer programs at Northern Essex are Liberal Arts, Business Transfer and Engineering Science. These programs are parallel to the first two years of similar

programs in most public and private senior colleges throughout the country and provide a solid basis for transfer with advanced standing. Other programs will transfer in whole or in part to many senior colleges with possible need to take additional required freshman or sophomore courses to meet junior year admittance standards. Students are strongly encouraged to meet with their advisors for clarification of transfer possibilities.

B. Career Associate Degree Programs

Career associate degree programs are intended to provide the theory and technical knowledge and to develop the professional skills students need to qualify for entry into the job market immediately after graduation. Many of these programs include practicum experiences while others may be supplemented with cooperative education courses for alternative on-the-job training. Although career program courses are not specifically designed for transfer to a senior institution, individual courses within these programs may have transfer potential into related degrees at senior colleges. Students intending to continue their studies are encouraged to review specific college requirements with their advisors to obtain highest transferability of their NECC coursework.

C. General Studies Degree Program

The General Studies Program is available for students who have not yet decided on a particular field of study and want an opportunity to explore their interests and abilities. The Associate in Arts Degree in General Studies is designed to provide a flexible curriculum which combines a core of transfer courses with an opportunity to explore occupational courses in areas such as engineering, computer science, management and health professions through 24 credits of free electives. Students who have completed a certificate program of courses (see below) that are not applicable as an option within a specific degree program may apply these courses as free electives toward an Associate of Arts Degree in General Studies.

Certificate Programs

NECC certificates are awarded for an area of concentration which develops specific skills needed for (1) immediate job entry into a career field/cluster or (2) further study in a clearly identified area of specialization within a discipline. NECC awards several types of certificates.

A. Certificate

The NECC Certificate is awarded for a 24 credit or more program which has been approved under the authority of the Higher Education Coordinating Council.

B. Certificate of Completion

The NECC Certificate of Completion is awarded for a 15-23 credit certificate program.

C. Certificate of Accomplishment or Participation

The NECC Certificate of Accomplishment or Participation is awarded for certificate programs up to 14 credits or for noncredit courses.

NECC Certificates and Certificates of Completion (A and B) are awarded at the College's official graduation ceremony upon approval of the student's petition to graduate; Certificates of Accomplishment or Participation (C) are not awarded at graduation. All certificates of 15 credits or more will be noted on student transcripts.

Many of these certificate programs provide practicum experience, while others may be supplemented with cooperative education courses for alternative on-the-job experience. Most certificate programs may be applied in part or whole towards an appropriate degree program or General Studies degree. However, a student who receives an associate degree does not automatically receive a certificate as well; please see the section "Dual Program Status" elsewhere in this catalog. Although career certificate program courses are not specifically designed for transfer, individual courses within these programs may have transfer potential. Students intending to continue their studies are encouraged to review specific college requirements with their advisors to obtain highest transferability of their NECC coursework.

All certificates except Certificates of Accomplishment or Participation must be approved by the Academic Affairs Committee.

Academic Program Enhancements

A. Cooperative Education

Cooperative Education provides students with full-time or part-time jobs related to their academic programs and/or career objectives. Cooperative Education courses are founded on the philosophy that you learn more effectively when you learn by doing through integrating classroom instruction with practical, supervised on-the-job experience. Students are usually paid for the work performed while participating in Cooperative Education.

B. Community Service

Included as an elective in Cooperative Education is the Community Service program, located in the Cooperative Education Office, C-310 whereby students may choose to have a Co-op experience in a variety of social services and in the educational field. They also earn academic credit upon successful completion of academic Co-op assignments and their tutoring work.

C. Disney College Program

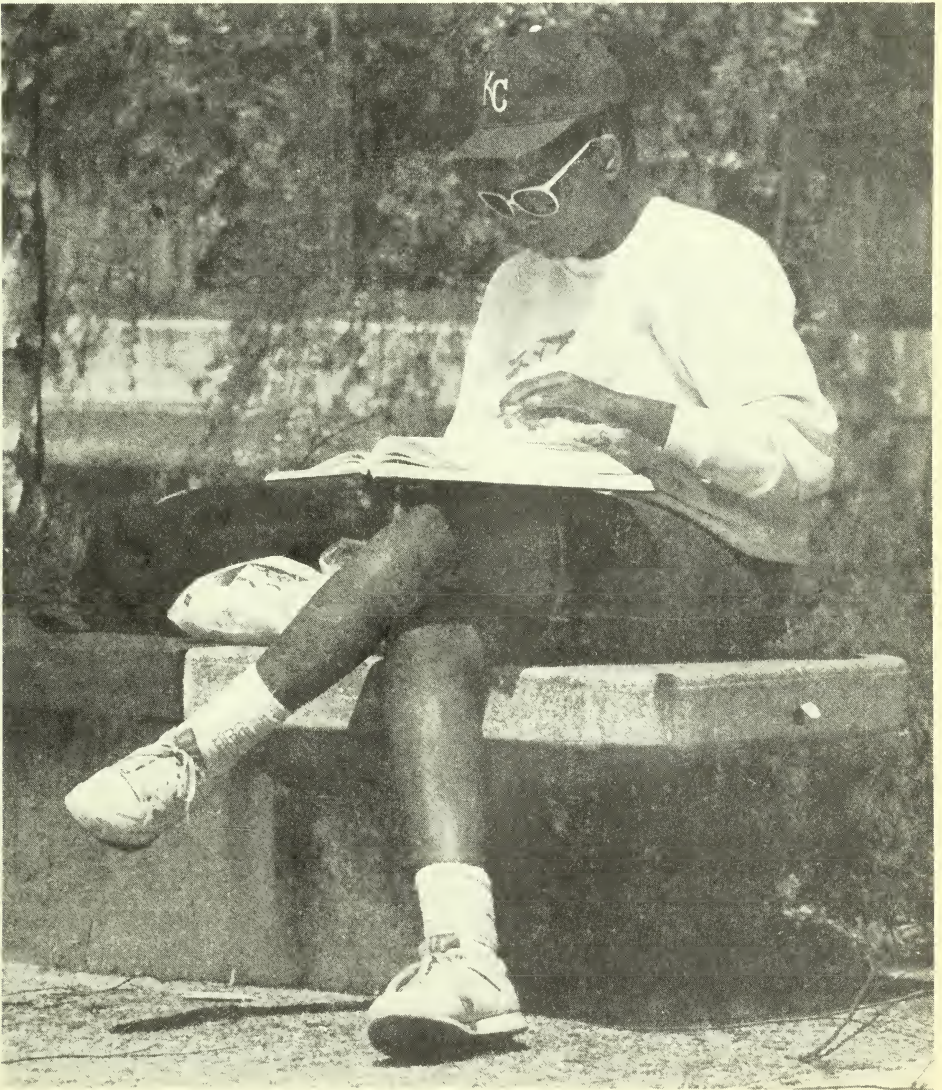
Students participating in the Disney College Program will have an opportunity to work in a world class organization, attend training and seminar sessions given by the Walt Disney World Cast members, have an excellent reference for their resume and live in Disney World accommodations. Disney recruiters come to NECC to select and interview students. Students must be 19 years of age with at least one semester (12 credits) of college work completed to qualify. Students may select a Fall, Spring or Summer session to participate in the Disney College Program in Orlando Florida.

D. International/Intercultural Education

Learning and teaching which encompass a global perspective are central to the mission of Northern Essex. Through introductory courses which integrate such a perspective, and through specialized courses as well as cross-registration at a NECCUM (Northeast Consortium of Colleges and Universities in Massachusetts) college, interested students can design a course of study with a strong focus on international/intercultural education. Two formal Liberal Arts program options -- International Relations and Cross-Cultural plus a Study Abroad program are available to all students, providing a more structured and guided educational experience. For further information, contact Usha Sellers, Assistant Dean, Division of Social Sciences, at 508-374-3969.

E. Study Abroad Programs

Students who participate in the Study Abroad Programs may explore a wide range of courses in the humanities and social sciences as well as in business, art, design and marketing. Many students take the opportunity of overseas living to enhance travel opportunities while earning their associate degree. Although not required, many students learn a new language and further strengthen their academic growth while abroad. They receive friendly and supportive assistance with extra features such as orientation, onsite support, academic counseling, side trips and a variety of social and cultural activities. Three-week to semester-long programs are offered in more than 20 countries. Credits are transferrable to U.S. colleges and universities and costs are reasonable and competitive. Financial aid is available for those who qualify. For full information and requirements, call 508-374-3969.



NOTE: The sequence of courses in associate degree programs allows these programs to be completed in two years by full time students. Many of our students design three to five year plans or accelerate their progress by attending summer and/or evening classes. For more information, see an advisor.

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Northern Essex Community College reserves the right to withdraw or revise any provision or requirement described in the college catalog. Supplements to this document may be issued from time to time to present new or additional information.

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Total Quality Management Certificate	122
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ACCOUNTING

The associate in science degree program in Accounting provides a basic core of business courses which introduces students to a broad variety of areas within the field of business and prepares them to select that particular phase of specialization which best suits their needs, abilities and interests. The Accounting specialization is designed to prepare students to enter business, industry or government in the specific field of accounting. Many of the courses in the curriculum may be transferred to a four-year college of business administration. 63/67 credit hours of work are required for graduation.

FIRST SEMESTER**CREDITS**

EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective (see Math Chart)*	3
BU4400	Introduction to Business	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
TW6640	Computerized Keyboarding I**	3
		<u>3</u>
		15/18

SECOND SEMESTER**CREDITS**

EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
	Mathematics Elective (see Math Chart)*	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
CT6630	Introduction to Personal Computers	3
		<u>3</u>
		15

THIRD SEMESTER**CREDITS**

AC6683	Computerized Accounting Systems†	3
AC6620	Intermediate Accounting I†	3
AC6682	Tax Accounting†	3
LW6651	Business Law I	3
EN8011	Speech or	
EN8020	Interpersonal Communication	3
	Natural Science Elective*	3/4
		<u>3/4</u>
		18/19

FOURTH SEMESTER**CREDITS**

	Economics Elective†††	3
MG6666	Principles of Management	3
AC6621	Intermediate Accounting II††	3
AC6671	Cost Accounting†	3
	Elective*	3
		<u>3</u>
		15

* Basic Math, Basic Algebra, Basic Writing, College Reading, and other developmental courses do not satisfy Math, Business Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6640 Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Prerequisite: A grade of C or better in Introductory Accounting I.

† Prerequisite: AC6611 Introductory Accounting II.

†† Prerequisite: AC6620 Intermediate Accounting I.

††† NOTE: Transfer student should take EC3322 Micro-Economics to receive transfer credit, non-transfer students can take EC3652 Survey of Economics.

ALCOHOL/DRUG ABUSE COUNSELING CERTIFICATE

The one-year certificate program in Alcohol/Drug Abuse Counseling is designed to provide the opportunity for students to learn the theory and develop the skills needed to assist clients toward recovery from their alcohol/drug abuse problem. Special consideration will be given to current modalities of treatment and ethical issues involved in direct care services. Carefully supervised clinical experiences in alcohol/drug abuse services are an integral part of the program and prepare students for positions as counselors in alcohol and drug abuse. 27 credit hours of work are required for the certificate. Graduates of this program have the opportunity to continue working toward an associate degree in Human Services. **The program is approved by the Council for Standards in Human Services Education. Admission Conditions:** Complete college admission requirements; two letters of reference; personal interview; health examination; liability insurance (taken out at time of registration at the college as part of tuition costs); demonstration of a serious commitment to working in the human service system to improve the care and services to the chemically dependent person.

FIRST SEMESTER		CREDITS
MH2111	Introduction to Human Services	3
MH2133	Observation and Recording of Human Services Programs	1
MH2170	Alcohol and Drug Abuse	3
MH2168	Human Services Practicum I in Alcohol/Drug Abuse Services	4
MH2147	Group Dynamics	3
		<hr/> 14
SECOND SEMESTER		CREDITS
MH2171	Counseling Techniques with Drug Abusers	3
MH2169	Human Services Practicum II in Alcohol/Drug Abuse Services	4
MH2155	Modalities of Treatment	3
	Behavioral Science Elective	3
		<hr/> 13

Note: All courses with an MH prefix are restricted to students enrolled in the Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses depending upon class size with written permission of the coordinator.

BANKING STUDIES CERTIFICATE AIB

The Banking Studies Certificate AIB has been developed by the college in conjunction with the Merrimack Valley Chapter, American Institute of Banking (AIB). The program is designed for students who wish to complete specialized courses in banking studies. The Banking Studies elective courses are sponsored by AIB, delivered by AIB certified faculty, and students receive AIB recognition as they complete the certificate requirements. The courses in this certificate program can be transferred as business electives into the Associate Degree program in Business Management. 24 credit hours are required for the certificate.

FIRST SEMESTER		CREDITS
BK6601	Principles of Banking	3
AC6610	Introductory Accounting I	3
CT6630	Introduction to Personal Computers	3
	Banking Elective*	3
		<hr/> 12
SECOND SEMESTER		CREDITS
BK6652	Law and Banking Principles	3
	Banking Electives*	6
	Liberal Arts Elective**	3
		<hr/> 12

* Banking Electives are any courses with a BK prefix

** Liberal Arts Elective must be selected among Humanities, Social Science, Natural Science

BIOTECHNOLOGY LABORATORY TECHNICIAN CERTIFICATE

The certificate program in Biotechnology Laboratory Technician provides students with theoretical and practical training in the basic technical skills needed for entry level jobs as technicians in the Biotechnology industry. All institutional prerequisites are in effect including high school diploma or equivalent, high school Algebra and/or a proficiency in Intermediate Algebra. Employment opportunities are in private research, development and manufacturing throughout Massachusetts. 28/29 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
CT6630	Intro to Personal Computers	3
BI5515	Intro Biology I	4
MA5615	College Algebra	3
EN4401	English Composition I	3
		<u>13</u>
SECOND SEMESTER		CREDITS
BI5553	Microbiology	4
CH5503	Intro Chemistry I	4
EN4676	Technical Writing*	3
BI6010	Seminar in Biotechnology	1
		<u>12</u>
SUMMER SESSION		CREDITS
BI6015	Techniques in Biotechnology	3
BI6020	Internship in Biotechnology**	1
		<u>3/4</u>

* If unavailable choose from one of the following:
EN8011 Speech; EN4402 English Composition II;
EN8020 Interpersonal Communication

** Optional

BUSINESS EDUCATION

The associate in science degree program in Business Education provides the student with the opportunity to acquire not only high-level business and secretarial skills, but the possibility of transferring to a four-year program at a senior institution. Students may transfer the courses listed towards a Bachelor of Business Education degree in order to prepare for a career as a teacher of business subjects, or towards a Bachelor of Office Administration degree in order to prepare for excellent supervisory or management positions in the business world. 60 or 61 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
	Business Elective	3
SH6601	Speedwriting I	3
	Keyboarding I or II*	3
HI9901	Western Civilization I	3
		<u>15</u>
SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
SH6602	Speedwriting II	3
TW6641	Keyboarding II*	3
PS1101	Introduction to Psychology	3
HI9902	Western Civilization II	3
		<u>15</u>
THIRD SEMESTER		CREDIT
	Secretarial Science Elective**	3
SL6661	Office Administration I	3
	Natural Science Elective	3/4
AC6610	Introductory Accounting I	3
	Secretarial Science Elective**	3
		<u>15/16</u>
FOURTH SEMESTER		CREDITS
SL6665	Essentials of Office Management	3
AC6611	Introductory Accounting II***	3
	Speech or Literature	3
	Secretarial Science Elective**	3
	Liberal Arts Elective	3
		<u>15</u>

* Choose appropriate course after consultation with departmental advisor.

** Secretarial Science Electives are listed with the Executive Secretarial curriculum.

*** Prerequisite: A grade of C or better in AC6610 Introductory Accounting I.

BUSINESS MANAGEMENT

The associate in science degree program in Business Management provides a basic core of business courses which introduces students to a variety of areas within the field of business. Specific requirements in Business Law, Business Finance, Economics and Principles of Management give students the knowledge and background to make positive contributions in those positions in the business world for which they may be preparing. A wide choice of business management electives allows students maximum flexibility in choosing their programs of study. This program may be preferred by those not wishing to decide upon a specific concentration after completing the first year core program, or by those planning to transfer to a four-year college who want the flexibility of choosing specific business electives for a particular institution. 60/64 credit hours of work are required for graduation.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
AC6610 Introductory Accounting I	3
Mathematics Elective (see Math Chart)*	3
BU4400 Introduction to Business	3
SO3321 Introduction to Sociology OR	
PS1101 Introduction to Psychology	3
TW6640 Keyboarding I**	<u>3</u>
	15/18

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
AC6611 Introductory Accounting II***	3
Mathematics Elective (see Math Chart)*	3
PS1101 Introduction to Psychology OR	
SO3321 Introduction to Sociology	3
CT6630 Introduction to Personal Computers	<u>3</u>
	15

THIRD SEMESTER	CREDITS
FI3652 Business Finance†	3
LW6651 Business Law I	3
MK6678 Marketing††	3
EN8011 Speech OR	
EN8020 Interpersonal Communication	3
Business Elective*	<u>3</u>
	15

FOURTH SEMESTER	CREDITS
Economics Elective†††	3
MG6666 Principles of Management	3
Business Elective*	3
Elective*	3
Natural Science Elective*	<u>3/4</u>
	15/16

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6640 Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Prerequisite: A grade of C or better in Introductory Accounting I

† Prerequisite AC6611 Intro Accounting II

†† Prerequisite: BU4400, Introduction to Business

††† **NOTE:** Transfer students should take EC3322 Micro-Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

BUSINESS MANAGEMENT: COMPUTER APPLICATIONS OPTION

The associate in science degree program in Business Management with Computer Applications Option provides a basic core of business courses that introduces students to a variety of areas within the field of business. Specific requirements in Business Law, Business Finance, Economics and Principles of Management, give students the knowledge and background to make positive contributions in those positions in the business world for which they may be preparing. A wide choice of business management electives allows students maximum flexibility in choosing their program of study. This program may be preferred by those planning to transfer to a four year college who want the flexibility of choosing specific business electives for a particular institution. 61/65 credit hours of work are required for graduation.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
AC6610 Introductory Accounting I	3
Mathematics Elective (see Math Chart)*	3
BU4400 Introduction to Business	3
CT6630 Introduction to Personal Computers	3
TW6640 Keyboarding I**	3
	<u>15/18</u>

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
AC6611 Introductory Accounting II***	3
Mathematics Elective (see Math Chart)*	3
PS1101 Introduction to Psychology OR	
SO3321 Introduction to Sociology	3
FI3600 Business Spreadsheet Applications	3
	<u>15</u>

THIRD SEMESTER	CREDITS
FI3652 Business Finance†	3
LW6651 Business Law I	3
CT6632 Personal Computer Applications	3
PS1101 Introduction to Psychology OR	
SO3321 Introduction to Sociology	3
Elective*	3
	<u>15</u>

FOURTH SEMESTER	CREDITS
Economics Elective††	3
MG6666 Principles of Management	3
EN8011 Speech OR	
EN8020 Interpersonal Communication	3
CT6681 Advanced Data Base Mgt Software	4
Natural Science Elective*	3/4
	<u>16/17</u>

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6640 Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Prerequisite: A grade of C or better in Introductory Accounting I

† Prerequisite AC6611 Intro Accounting II

†† NOTE: Transfer students should take EC3322 Micro-Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

**BUSINESS MANAGEMENT:
ENTREPRENEURSHIP OPTION**

The associate in science degree program in Business Management with Entrepreneurship Option prepares students for starting and running their own business. Because entrepreneurship entails a wide range of skills, the program includes liberal arts courses for a broad perspective; business courses for a practical foundation in business practices and principles; and specialty courses in entrepreneurship for focus. The program is designed to provide students interested in starting their own business with a strong foundation of practical skills to enable them to survive as an independent business owner in a competitive economy. 60/61 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective (see Math Chart)+	3
BU4400	Introduction to Business	3
CT6630	Introduction to Personal Computers	3
		<u>15</u>

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
AC6611	Introductory Accounting II*	3
	Mathematics Elective (see Math Chart)+	3
MK6678	Principles of Marketing**	3
BU4450	Introduction to Entrepreneurship	3
		<u>15</u>

THIRD SEMESTER		CREDITS
MK6685	Marketing Entrepreneurial Ventures***	3
LW6651	Business Law I	3
FI3652	Business Finance†	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
MG6676	Human Resource Management	3
		<u>15</u>

FOURTH SEMESTER		CREDITS
FI3655	Planning/Finance for Entrepreneurs††	3
EC3652	Survey of Economics	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
	Natural Science Elective	3/4
CI4401	Career Internship I††† OR	
	Business Elective††††	3
		<u>15/16</u>

+ Any Math (MA) course *except* the following: MA0020 Basic Math, MA0030 Basic Algebra

* Prerequisite: A grade of C or better in AC6610

** Prerequisite: BU4400

*** Prerequisite: MK6678 and BU4450

† Prerequisite: AC6611

†† Prerequisite: A grade of C or better in BU4450

††† Prerequisites: BU4450 and MK6685. The student may take the Career Internship concurrently with FI3655

†††† Recommended Business Electives: AC6682 Tax Accounting (Prerequisite AC6611), TW6600 Computer Keyboarding, TW6640 Keyboarding I, BU4420 Internat'l Business, LW6653 Internat'l Business Law (Prerequisite LW6651), MK6681 Salesmanship, MK6688 Consumer Decision Making, MG6679 Advertising, SL6682 Business Communications, FI3600 Business Spreadsheet Applications

BUSINESS MANAGEMENT:**TOTAL QUALITY MANAGEMENT OPTION**

The associate in science degree program in Business Management with a Total Quality Management option prepares students to enter the management field with application knowledge of the latest concepts in workforce utilization, companywide management of process/product/service quality, customer service, productivity and continuous process improvement. The program draws upon both cognitive and affective skill-building to equip students with immediately marketable tools for management of manufacturing, quality, or service support positions and/or prepares them to go on to four-year programs. 69/73 credit hours of work are required for graduation.

FIRST SEMESTER**CREDITS**

EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Mathematics Elective (see Math Chart)*	3
BU4400	Introduction to Business	3
MG6620	Intro. to Total Quality Management	3
TW6640	Keyboarding I**	3
		<u>15/18</u>

SECOND SEMESTER**CREDITS**

EN4402	English Composition II	3
AC6611	Introductory Accounting II***	3
CT6630	Intro to Personal Computers	3
	Mathematics Elective (see Math Chart)*	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
MG6625	Planning for Total Quality Mgmt.	3
		<u>18</u>

THIRD SEMESTER**CREDITS**

FI3652	Business Finance†	3
MK6678	Marketing††	3
EN8011	Speech OR	
EN8020	Interpersonal Communication	3
BU4430	Business Software Integration****	3
MG6630	Management of Total Quality Systems	3
MG6633	Process Control & Improvement	3
		<u>18</u>

FOURTH SEMESTER**CREDITS**

	Economics Elective†††	3
MG6666	Principles of Management	3
LW6651	Business Law I	3
MG6635	Management of Product Design	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
	Natural Science Elective*	3/4
		<u>18/19</u>

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6640 Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Prerequisite: A grade of C or better in Introductory Accounting I

**** Prerequisite CT6630 Introduction to Personal Computers

† Prerequisite AC6611 Introductory Accounting II

†† Prerequisite: BU4400, Introduction to Business

††† NOTE: Transfer students should take EC3322 Micro-Economics to receive transfer credit; non-transfer students can take EC3652 Survey of Economics.

BUSINESS TRANSFER†

The associate in science degree program in Business Transfer is designed for students planning to transfer to a four-year institution after completing the associate degree program. It provides study of basic liberal arts courses with transferable courses in business administration to provide a strong background for further study towards the bachelor's degree. 62/65 credit hours of work are required for graduation.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
AC6610 Introductory Accounting I	3
MA5615 College Algebra* OR	3
MA5675 Calculus I for Business/Social/Life Sciences	
CT6630 Introduction to Personal Computers	3
PS1101 Introduction to Psychology OR	
SO3321 Introduction to Sociology	3
TW6640 Keyboarding I**	3
	<u>3</u>
	15/18

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
AC6611 Introductory Accounting II***	3
FI3600 Business Spreadsheet Applications	3
EN8011 Speech OR	
EN8020 Interpersonal Communication	3
PS1101 Introduction to Psychology OR	
SO3321 Introduction to Sociology	3
	<u>3</u>
	15

THIRD SEMESTER	CREDITS
EC3322 Micro Economics	3
Natural Science	4
Elective*	3
Elective*	3
Elective*	3
	<u>3</u>
	16

FOURTH SEMESTER	CREDITS
EC3323 Macro Economics	3
Natural Science	4
Elective*	3
Elective*	3
Elective*	3
	<u>3</u>
	16

Natural Science Requirement: Two 4-credit courses in natural science are recommended. In some instances a total of nine credits in 3-credit science courses may be accepted with divisional approval.

Mathematics Requirement: Since acceptable transfer courses vary among four year colleges, students should choose courses in accordance with the specific requirement of the college to which they are seeking admission. It may be necessary for some students to take more than the required two courses in mathematics since courses in Calculus for Business I and II are required for admission by some colleges.

***Electives:** A wide variety of electives is available to fill the requirements of specific colleges in regard to transfer credits. Students are advised to contact the college to which they are seeking transfer to determine courses that should be taken at Northern Essex Community College. Recommended in many instances would be courses in history and government, humanities social sciences and mathematics. Many four year schools will also accept additional courses in Business Administration to satisfy their general elective requirements. Co-op I and II are not transferable electives.

* Basic Math, Basic Algebra, Basic Reading, Basic Writing, College Reading and other developmental courses do not satisfy Math, Business, Liberal Arts, Natural Science, or elective requirements.

** Students with computer keyboarding skills can waive TW6640 Keyboarding I by passing the computer keyboarding assessment test. Students who choose not to take the assessment test, and those assessed with low keyboarding skills must take this course in their first semester.

*** Prerequisite: A grade of C or better in Introductory Accounting I

† See **Commonwealth Transfer Compact** requirements in this catalog.

CODING CERTIFICATE

The one-year certificate program in Coding has been designed for students with no background in coding and classifying diseases and procedures. It is a career program and provides courses in medical terminology, anatomy and physiology and fundamentals of the disease process. Upon completion students may apply for entry level positions as coders in a variety of health care settings with flexible hours and a challenging workload. Credits in this program are fully applicable to the associate degree in Health Information Technology Program. 21 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
MR6605	Introduction to Medical Language I	3
BI5519	Anatomy & Physiology I	4
		<u>7</u>
SECOND SEMESTER		CREDITS
MR6606	Introduction to Medical Language II	3
BI5520	Anatomy & Physiology II	4
BI5530	Fundamentals of Disease Process	3
		<u>10</u>
SUMMER SEMESTER †		CREDITS
MR6629	Medical Coding & Classification Systems	3
MR6630	*Coding Practicum	1
		<u>4</u>

* To be completed off campus at a health care facility site. Student must provide own transportation.

† Summer session courses offered only in the evening.

COMMERCIAL ART/**DESKTOP PUBLISHING CERTIFICATE**

The one-year certificate program in Commercial Art/Desktop Publishing offers practical training in the skills needed for entry level jobs in the commercial design field, an exposure to career possibilities in graphic communications, and a chance to develop a number of transferable skills. 27 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
FA7096	Graphic Design I	3
FA7030	Drawing I	3
FA7121	Macintosh Design	3
		<u>12</u>
SECOND SEMESTER		CREDITS
FA7080	Color & Design	3
FA7097	Graphic Design II	3
FA7122	Publication Design	3
MG6686	Small Business Management OR	
MK6679	Advertising	3
		<u>12</u>
SUMMER SESSION		CREDITS
FA7126	Advanced Publication Design	3
		<u>3</u>

Recommended Additional Courses: FA7130 Animation, CO4401 Cooperative Education I

COMMUNITY RESIDENCE MANAGER CERTIFICATE

The one-year certificate program in Community Residence Manager provides students with the theory and skills needed to provide direct client services such as assisting residents to master activity of daily living skills; group and individual counseling; money management techniques for residents; community referral skills; and an understanding of the problems of the mentally retarded and mentally ill as they seek to enter into the mainstream of our society after years of institutionalization. Carefully supervised clinical experiences in residential services are an integral part of the program and prepare students for positions as community residence managers. Graduates of this program have the opportunity to continue working toward an associate's degree in Human Services. 33 credit hours of work are required for the certificate. **The program is approved by the Council for Standards in Human Services Education. Admission Conditions:** Complete college admission requirements, two letters of reference, personal interview, health examination, liability insurance (taken out at time of registration at the college as part of tuition costs), and demonstration of a serious commitment to working in the human services delivery system to improve the care and services to the mentally ill/emotionally disturbed/and developmentally disabled person in residential programs.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
MH2111 Introduction to Human Services	3
GV3310 American Government & Politics	3
MH2133 Observation & Recording of Human Services Programs	1
MH2147 Group Dynamics	3
MH2145 Human Services Practicum in Residential Services I	4
	<hr/> 17

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
PS1101 Introduction to Psychology	3
MH2156 Behavior Management Principles and Techniques	3
Elective	3
MH2146 Human Services Practicum in Residential Services II	4
	<hr/> 16

Note: All courses with an "MH" prefix are restricted to students enrolled in the Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

COMPUTER-AIDED DRAFTING CERTIFICATE

The thirty-week certificate program in Computer Aided Drafting (CAD) is designed to give students a thorough background in engineering drafting, experience in the use of a CAD system, and knowledge of how CAD fits into Computer Integrated Manufacturing. A minimum of 25 credit hours of work are required for the certificate.

Program Prerequisite: Two years of high school algebra or equivalent.

FIRST SEMESTER	CREDITS
ET6600 Engineering Drafting OR	3
ET6601 Engineering Design Graphics	2
CT6630 Introduction to Personal Computers OR	
CT6632 Personal Computer Applications	3
MA5621 College Algebra & Trigonometry*	4
CT6670 Introduction to CAD/CAM	3
TW6600 Computer Keyboarding I**	1
	<hr/> 13/14

SECOND SEMESTER	CREDITS
CT6672 Computer Aided Drafting	3
EN4401 English Composition I	3
Elective***	3/4
Elective***	3/4
	<hr/> 12/14

* Students with a more advanced math background may substitute appropriate courses.

** For students without strong typing skills.

*** Recommended alternatives for electives: FA7096 Introduction to Graphic Design, FA7098 Illustration, CO4401 Cooperative Education, CT6601 Fundamentals of Digital Logic, CT6682 Computer Applications in Engineering & Technology, CT6632 Personal Computer Applications, CT6620 Programming I, and CT6642 PC Application Suites in Windows

COMPUTER AND INFORMATION SCIENCES: COMPUTER OPERATIONS OPTION

The Computer Operations option is a career-oriented degree program aimed at preparing students for careers in computer operations and operation management. The program includes training in software, hardware and computer operations. This program requires at least 61 credits. Category I and math credits must total 18. **No prior knowledge of computers necessary.**

FIRST SEMESTER (Fall)		CREDITS
CT6630	Introduction to Personal Computers	3
CT6626	Introduction to Information Processing/Basic	4
EN4401	English Composition I	3
	Mathematics Elective*	3/4
	Elective or Keyboarding**	3
		16/17

SECOND SEMESTER (Spring)		CREDITS
CT6641	Operating Systems	4
EN4402	English Composition II	3
	Mathematics Elective*	3/4
	Social Science Elective	3
CT5501	Personal Computer Maintenance/Repair	3
		16/17

THIRD SEMESTER (Fall)		CREDITS
CT6643	Computer Operations Experience OR	
CO4401	Cooperative Education	3/4
MG6666	Principles of Management	3
	Category I Elective***	3/4
	Humanities Elective	3
	Elective	3
		15/17

FOURTH SEMESTER (Spring)		CREDITS
	Programming Elective	4
	Category I Elective***	3/4
	Category I Elective ***	3/4
	Social Science/Humanities Elective	3
		13/15

* Math Chart starting at the level of MA5501 Intermediate Algebra

** Students must have a keyboarding skill of 25 words per minute with no more than one error per minute on unfamiliar material, or TW6640 Keyboarding I must be taken in the first semester. Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

*** Category I electives include upper level math courses, business courses, or any offering from the Computer & Information Sciences, Natural Science, Engineering, or Technology departments.

COMPUTER AND INFORMATION SCIENCES: PERSONAL COMPUTER SPECIALIST OPTION

The associate in science degree option in Computer and Information Sciences: Personal Computer Specialist has been designed to serve the needs of the career-oriented student who wishes to find employment as a personal computer specialist. This program provides training in software, hardware and computer networks. 61 credit hours of work are required for graduation. No prior knowledge of computers is necessary.

FIRST SEMESTER (Fall)		CREDITS
CT6626	Introduction to Information Processing/BASIC	4
CT6630	Introduction to Personal Computers	3
EN4401	English Composition I	3
	Math Elective*	3/4
	Elective or Keyboarding**	3
		16/17

SECOND SEMESTER (Spring)		CREDITS
CT5501	Personal Computer Maintenance/Repair	3
CT6641	Operating Systems	4
EN4402	English Composition II	3
	Math Elective*	3/4
	Programming Elective****	4
		17/18

THIRD SEMESTER (Fall)		CREDITS
CT6632	Personal Computer Applications	3
CT6645	Introduction to Computer Networks	3
	Category Elective***	3/4
	Humanities Elective	3
	Social Science Elective	3
		15/16

FOURTH SEMESTER (Spring)		CREDITS
CT6681	Advanced Data Base Mgt Software	4
	Category Elective***	3/4
	Social Science/Humanities Elective	3
	Elective	3/4
		13/15

* Math chart starting at the level of MA5501 Intermediate Algebra.

** Students must have a keyboarding skill of 25 words per minute or TW6640 Keyboarding I must be taken in the first semester.

*** Category electives: CT6670 Introduction to CAD/CAM, CT7000 Introduction to Macintosh, CT6620 Fundamentals of Digital Logic, ET6690 Microcomputers, Accounting, Business Management, Cooperative Education courses, or Category I electives from the Personal Computer Certificate.

****CT6620 Programming I

Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

COMPUTER AND INFORMATION SCIENCES: PROGRAMMING OPTION

The associate in science degree program in Computer and Information Sciences: Programming Option is designed to serve the needs of a variety of students whose goals may vary from employment after graduation to transferring to a four year college majoring in computer science or computer information systems (CIS). Category electives allow students to plan their future by focusing on one of four career objectives: computer science transfer, CIS transfer or employment in the business or technical programming career paths. Students should consult with their faculty advisor to plan courses. 65/71 credit hours of work are required for graduation. **Program Prerequisite:** Two years of high school algebra or equivalent.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
MA5614 Introduction to Discrete Mathematics	3
CT6620 Programming I	4
CT6632 Personal Computer Applications	3
Elective or Keyboarding*	3
	<u>16</u>

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
Math Elective**	3/4
CT6640 Programming II	4
Humanities Elective	3
Category Elective***	3/4
	<u>16/18</u>

THIRD SEMESTER	CREDITS
Math Elective**	3/4
Programming Elective	4
Category Elective***	3/4
Social Science Elective	3
CT6649 Assembly Language Programming	4
	<u>17/19</u>

FOURTH SEMESTER	CREDITS
CT6655 Programming III	4
Category Elective***	3/4
Category Elective***	3/4
Social Science/Humanities Elective	3
Elective	3
	<u>16/18</u>

* Students must have a keyboarding skill of 25 words per minute or TW6640 Keyboarding I must be taken in the first semester.

** Math chart for computer programs starting at the level of MA5621 College Algebra & Trigonometry.

*** Category electives: see academic advisor for category elective selection guides for the path you wish to follow. CT6630 Introduction to Personal Computers **may not be used**. Electives may not include any developmental courses such as basic math, basic algebra, basic reading or basic writing.

Technical Writing is highly recommended as an elective.

Students wishing to transfer to a bachelor's program should have two social science electives: Western Civilization I and Western Civilization II, one humanities elective and a minimum grade of C in all programming courses.

COMPUTER MAINTENANCE TECHNOLOGY

The associate in science degree program in Computer Maintenance Technology is designed as a career program to train students for positions as technicians skilled in digital computer software and hardware. Students concentrate primarily on analyzing and troubleshooting digital electronic circuits and systems and secondarily on programming in Assembly Language and higher level languages. Laboratories emphasize hands-on experience with up-to-date computers and electronic instruments. A minimum of 65 credit hours of work are required for graduation. **Program Prerequisite:** Two years of high school algebra or equivalent.

FIRST SEMESTER	CREDITS
MA5621 College Algebra & Trigonometry	4
ET6611 Circuit Analysis I	4
CT6601 Fundamentals of Digital Logic	3
EN4401 English Composition I	3
ET6603 Digital Logic Laboratory	1
	<u>15</u>

SECOND SEMESTER	CREDITS
MA5622 Advanced Algebra & Trigonometry	4
CT5501 PC Maintenance & Repair	3
ET6612 Circuit Analysis II	4
ET6672 Electronics I	5
TW6600 Computer Keyboarding I	1
	<u>15</u>

THIRD SEMESTER	CREDITS
EN4402 English Composition II	3
ET6690 Microcomputers	4
ET6682 Digital Electronics	4
Technical Elective *	2/3/4
Humanities/Social Science Elective	3
	<u>16/17/18</u>

FOURTH SEMESTER	CREDITS
CT6683 Computer System Troubleshooting	4
ET6645 Robotics	3
ET6683 Digital Communications	4
Technical Elective *	3/4
Humanities/Social Science Elective	3
	<u>17/18</u>

Technical Electives: Both electives must be from the same sequence as listed below.

Network Sequence: CT6645 Introduction to Computer Networks, Network Elective

Software Application Sequence: CT6630 Introduction to Personal Computers, CT6632 Personal Computer Applications, CT6681 Advanced DataBase Management Software

Programming Sequence: CT6682 Engineering Computer Application, CT6620 Programming I, CT6640 Programming II

CAD Sequence: ET6601 Engineering Design Graphics, CT6670 Introduction to CAD/CAM, CT6672 Computer Aided Drafting

COMPUTER OPERATOR CERTIFICATE

This one-year certificate is designed to develop skills and knowledge to meet the demands of computer operations, and to prepare students as operator trainees in a number of categories: mini-computer operator, I/O or peripheral device operator, junior operator or console computer operator. 26 to 28 credit hours of work are required for graduation. **No prior knowledge of computers necessary.**

FIRST SEMESTER (Fall) CREDITS

CT6626	Intro. to Information Processing w/BASIC	4
CT6630	Introduction to Personal Computers	3
	Math Elective*	3/4
	Elective or Keyboarding**	3
		13/14

SECOND SEMESTER (Spring) CREDITS

CT6641	Operating Systems	4
CT5501	Personal Computer Maintenance/Repair	3
MG6666	Principles of Management	3
		10

THIRD SEMESTER (Summer or Fall) CREDITS

CT6643	Computer Operations Experience OR Co-op Experience	3/4
		3/4

* Acceptable math electives are: MA5501 Intermediate Algebra, MA5673 Quantitative Methods, MA5506 Statistics, MA5621 College Algebra & Trigonometry, or any calculus course.

** Students must have a keyboarding skill of 25 words per minute with no more than one error per minute on unfamiliar material or TW6640 Keyboarding I must be taken in the first semester. Elective may not include any developmental course such as basic math, basic algebra, basic reading or basic writing.

CRIMINAL JUSTICE

The associate in science degree program in Criminal Justice describes and analyzes the various aspects of the criminal justice system. The curriculum is designed to take a systems approach in understanding the crime problem in the U.S. The program is structured to prepare students for professional careers, whether they are pre-service or already working in the criminal justice field. It is recognized that a majority of criminal justice students continue their criminal justice education at four-year institutions. Consequently, the curriculum has a broad, academic orientation, facilitating transfer to four year institutions. 63 to 66 credit hours of work are required for graduation.

FIRST SEMESTER CREDITS

EN4401	English Composition I	3
	Math Elective*	3/4
SO3321	Introduction to Sociology	3
PH1150	Practical Logic	3
CJ3603	Introduction to Criminal Justice	3
		15/16

SECOND SEMESTER CREDITS

EN4402	English Composition II	3
GV3310	American Government & Politics	3
SO3353	Introduction to Criminology	3
CJ3607	Functions of Police in Modern Society	3
CJ3610	Introduction to Security	3
		15

THIRD SEMESTER CREDITS

CT6630	Introduction to Personal Computers	3
	Elective**	3
CJ3667	Crisis Intervention in Criminal Justice System	3
PS1101	Introduction to Psychology	3
CJ3601	Concepts of Criminal Law	3
	Natural Science Elective***	3/4
		18/19

FOURTH SEMESTER CREDITS

GV3315	Civil Rights & Liberties	3
CJ3608	Introduction to Corrections	3
CJ3670	Senior Seminar† OR	
CJ3672	Field Practicum	3
	Natural Science Elective***	3/4
	Elective**	3
		15/16

* Basic Math, Basic Algebra and Intermediate Algebra are generally not accepted for transfer or to meet the standards of the Commonwealth Transfer Compact.

** Students must choose two additional humanities courses to meet requirements of the Commonwealth Transfer Compact. Select humanities electives from the following catalog categories:

foreign languages, communication, philosophy, art, music, literature, religion and theatre. Courses other than humanities may be selected but transfer students are advised to check requirements of the institution to which the seek to transfer.

*** Natural Science Elective: Select courses from the following catalog categories: biology, chemistry, earth sciences or science. Students seeking to transfer require two laboratory science courses (4 credits each) to meet the standards of the Commonwealth Transfer Compact.

DENTAL ASSISTANT CERTIFICATE

The Dental Assistant certificate provides the student with knowledge and practical skills required to perform dental assisting functions competently. Ten weeks of practical experience is provided in local dental offices to perfect the student's competence in performing dental assisting functions. **The program is accredited by the Commission on Dental Accreditation of the American Dental Association.** Students who successfully pass the Certification for Dental Assistants examination sponsored by the Dental Assisting National Board, Inc. become Certified Dental Assistants. 35 credit hours of work are required for the certificate. A personal interview is required prior to admission.

FIRST SEMESTER		CREDITS
DA0100	Dental Assisting I	5
DA0105	Dental Clinical I	4
DA0110	Oral Science I	3
DA0130	Dental Radiology I	2
PS1101	Introduction to Psychology	3
EN4401	English Composition I	3
		<hr/> 20

SECOND SEMESTER		CREDITS
DA0200	Dental Assisting II	3
DA0205	Dental Clinical II	1
DA0250	Dental Radiology II	1
DA0245	Oral Science II	1
DA0275	Dental Seminar	1
DA0280	Dental Assisting Practicum	5
BI5510	Human Biology	3
		<hr/> 15

Student Liability Insurance: All Dental Assistant students are required to carry student liability insurance. The premium is to be paid prior to the beginning of classes.

Health: Dental Assistant students are required to complete a health evaluation prior to final acceptance to the program.

C.P.R. Certification: All Dental Assistant students are required to be C.P.R. certified (Basic Life Support Level C or Health Care Provider) prior to their first clinical assignment in the Spring semester. This may be accomplished by participating in C.P.R. instruction by the American Heart Association or the American Red Cross.

EARLY CHILDHOOD EDUCATION

The Early Childhood Education program is career oriented and trains students for a professional role in early childhood education. How children grow, develop and learn will become more meaningful through course work, directed observation and the study of the young child as an individual and as he/she functions in a variety of group settings. An integral part of this program is, therefore, the practicum placement which allows the student to apply theory and new skills, under guidance and supervision, in a variety of classrooms and educational programs. The program also provides the foundation for further study at a four year college. This program requires 66/68 credit hours of work for graduation. **Admission Conditions:** Letters of reference and a personal interview with the Curriculum Coordinator.

FIRST SEMESTER**CREDITS**

EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
BI5510	Human Biology/Natural Science Elective	3/4
CC2230	ECE: Theory and Practice	4
CC2244	Enhancing Creativity in EC Curriculum	3
		<u>16/17</u>

SECOND SEMESTER**CREDITS**

EN4402	English Composition II	3
PS1151	Child Psychology	3
CC2312	Practicum I	3
ED0402	Language/Reading Development in EC	3
	Natural Science Elective	3/4
EN8011	Speech	3
		<u>18/19</u>

THIRD SEMESTER**CREDITS**

CC2353	Practicum II	4
PS2112	Problems of EC	3
	Humanities Elective*	3
	Math Requirement***	3
CC2240	Expressive Learning Activities in Early Childhood Curriculum	3
		<u>16</u>

FOURTH SEMESTER**CREDITS**

CC2264	Seminar in Philosophy ECE	3
CC2354	Practicum III	4
GV3310	American Government & Politics	3
	Elective**	3
CC2260	Math/Science for EC Curriculum	3
		<u>16</u>

* Humanities electives include foreign languages, philosophy, art, music, literature, religion, theatre, dance, photography.

** Persons who wish to transfer to other colleges after graduation should elect a course which satisfies requirements of those colleges and/or the Commonwealth Transfer Compact.

*** Specific college level math course to be determined by students in consultation with their advisor.

Students must maintain a grade of C or above in all CC and/or ED prefixed courses to proceed to the next semester's sequence in Early Childhood Education. Students whose grades fall below this level may continue only with the permission of the Early Childhood Coordinator.

Health: All students entering the Program must submit a report of a medical examination by a physician and documentation of a completed Mantoux (tuberculosis) test and MMR inoculation prior to beginning the program.

Note: Prior to graduation, all Early Childhood students must obtain certification in Basic First Aid and in CPR for children. This may be accomplished by participating in instruction offered by the American Red Cross, local hospitals or any equivalent training.

ELECTRONIC EQUIPMENT TECHNOLOGY CERTIFICATE

The one year certificate program in Electronic Equipment Technology is designed to prepare students for employment, often as entry level Electronic Equipment Servicing Technicians, with immediate marketable skills in electronic theory and with hands on laboratory experiences. 28 credit hours of work are required for this certificate. **Program Prerequisite:** High school diploma or equivalent and one year of high school Algebra.

FIRST SEMESTER		CREDITS
MA5621	College Algebra & Trigonometry*	4
CT6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
ET6603	Digital Logic Lab	1
CT5501	PC Maintenance & Repair	3
		<u>15</u>
SECOND SEMESTER		CREDITS
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
ET6690	Microcomputers	4
		<u>13</u>

* MA5621 College Algebra & Trigonometry may be postponed to the second semester if MA5501 Intermediate Algebra is required.

** Cooperative Education is a desirable addition to the program and highly recommended.

ELECTRONIC TECHNOLOGY

The associate in science degree program in Electronic Technology is designed primarily to prepare students for employment (often as an engineering assistant) with immediate marketable skills in electronic techniques. Heavy emphasis is put on use of state-of-the-art devices and laboratory equipment, and the preparing of complete, analytical laboratory reports. A minimum of 68 credit hours of work are required for graduation. **Program Prerequisite:** Two years of high school algebra, geometry and trigonometry helpful, but not required.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
MA5621	College Algebra & Trigonometry	4
ET6611	Circuit Analysis I	4
CT6601	Fundamentals of Digital Logic	3
ET6603	Digital Logic Laboratory	1
TW6600	Computer Keyboarding I	1
		<u>16</u>

SECOND SEMESTER		CREDITS
MA5622	Advanced Algebra & Trigonometry	4
ET6612	Circuit Analysis II	4
ET6672	Electronics I	5
ET6690	Microcomputers* OR Technical Elective**	3/4
		<u>16/17</u>

THIRD SEMESTER		CREDITS
EN4402	English Composition II	3
PI5621	Applied Physics I	4
ET6673	Electronics II	5
ET6682	Digital Electronics	4
		Humanities/Social Science Elective <u>3</u>
		<u>19</u>

FOURTH SEMESTER		CREDITS
PI5622	Applied Physics II	4
ET6690	Microcomputers* OR Technical Elective**	3/4
ET6684	Electronic Communication Systems	4
ET6683	Digital Communications	3
		Humanities/Social Science Elective <u>3</u>
		<u>17/18</u>

* ET6690 Microcomputers is required for graduation.

** **Technical Electives:** CT5501 PC Maintenance & Repair, CT6630 Intro to Personal Computers, CT6632 Personal Computer Applications, CT6682 Engineering Computer Applications

ELECTRONIC TECHNOLOGY: BIOMEDICAL OPTION

The associate in science degree program in Electronic Technology Biomedical Option is a career program designed to train students for employment with immediate marketable skills as technicians in biomedical electronic technology. Emphasis is on use of electronic devices and laboratory equipment and the maintenance and repair of medical electronics equipment. 63 credit hours of work are required for graduation. **Program Prerequisite:** Two years of high school algebra, geometry and trigonometry helpful, but not required.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
MA5621 College Algebra & Trigonometry	4
ET6611 Circuit Analysis I	4
CT6601 Fundamentals of Digital Logic	3
ET6603 Digital Logic Laboratory	1
ET6010 Intro to Medical Electronics & Clinical Safety	<u>1</u>
	16

SECOND SEMESTER	CREDITS
MA5622 Advanced Algebra & Trigonometry	4
ET6612 Circuit Analysis II	4
ET6672 Electronics I*	5
BI5510 Human Biology	<u>3</u>
	16

THIRD SEMESTER	CREDITS
EN4402 English Composition II	3
ET6673 Electronics II	5
ET6040 Medical Equipment Troubleshooting	3
3TW6600 Computer Keyboarding	1
Humanities/Social Science Elective	<u>3</u>
	15

FOURTH SEMESTER	CREDITS
ET6690 Microcomputers	4
CO4401 Cooperative Education I**	3
CT5501 PC Maintenance & Repair	3
Category Elective***	3/4
Humanities/Social Science Elective	<u>3</u>
	16/17

* ET6030 Medical Electronics Systems Operation completed with a minimum grade of B may be substituted for ET6672 with prior permission of the Chairperson of the Electronic Technology Department.

** The student is responsible for transportation to and from the cooperative education site. On occasion, off or onsite student conferences may be scheduled. Students are expected to meet with the health requirements of the cooperative education site. Liability Insurance is required at a number of sites. The insurance is to be paid prior to the beginning of the cooperative education experience. Students are required to contact the Cooperative Education office by the end of the first semester to initiate their experience.

*** Category Electives: CT6630 Intro to Personal Computer, CT6632 Personal Computer Applications, CT6683 Computer Systems Troubleshooting

ELECTRONIC TECHNOLOGY: COMPUTER SYSTEMS OPTION

The Computer Systems option in Electronic Technology is a career program designed to train students for employment as computer technicians. A strong foundation in analog electronics is combined with courses emphasizing digital and computer applications. A minimum of 66 credits is required for graduation. **Program Prerequisite:** Two years of high school algebra, geometry and trigonometry helpful, but not required.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
MA5621 College Algebra & Trigonometry	4
ET6611 Circuit Analysis I	4
CT6601 Fundamentals of Digital Logic	3
ET6603 Digital Logic Laboratory	1
TW6600 Computer Keyboarding I	<u>1</u>
	16

SECOND SEMESTER	CREDITS
MA5622 Advanced Algebra & Trigonometry	4
ET6612 Circuit Analysis II	4
ET6672 Electronics I	5
ET6690 Microcomputers	<u>4</u>
	17

THIRD SEMESTER	CREDITS
EN4402 English Composition II	3
ET6682 Digital Electronics	4
CT5501 PC Maintenance & Repair	3
Technical Elective*	3/4
Humanities/Social Science Elective	<u>3</u>
	16/17

FOURTH SEMESTER	CREDITS
CT6683 Computer System Troubleshooting	4
ET6645 Robotics	4
ET6683 Digital Communications	3
Technical Elective*	3/4
Humanities/Social Science Elective	<u>3</u>
	17/18

Technical Electives: Both electives must be from the same sequence as listed below.

Network Sequence: CT6645 Introduction to Computer Networks, Network Elective

Software Application Sequence: CT6630 Introduction to Personal Computers, CT6632 Personal Computer Applications, CT6681 Advanced DataBase Management Software

Programming Sequence: CT6682 Engineering Computer Application, CT6620 Programming I, CT6640 Programming II

CAD Sequence: ET6601 Engineering Design Graphics, CT6670 Introduction to CAD/CAM, CT6672 Computer Aided Drafting

ENGINEERING SCIENCE

The associate in science degree program in Engineering Science is designed to prepare an engineering student for transfer to a four-year college or university. A core curriculum has been developed in cooperation with the American Association for Engineering Education and engineering divisions of several four-year institutions. The core curriculum allows the student an opportunity to explore various engineering fields equipping him/her to choose the field of specialization best suited to his/her interests and abilities. The fields of engineering include chemical, industrial, electrical, civil, environmental, and mechanical. A strong background in mathematics is required. A minimum of 69 credit hours of work are required for graduation. **Program Prerequisite:** Two years of algebra; geometry; trigonometry; one year of physics or chemistry.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
MA5690	Calculus I	4
	Chemistry Elective*	4
ET6601	Engineering Design Graphics	2
	Programming Elective**	4
		<hr/> 17

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
MA5692	Calculus II	4
PI5623	Engineering Physics I	4
	Chemistry Elective*	4
	Communications Elective††	3
		<hr/> 18

THIRD SEMESTER		CREDITS
MA5693	Calculus III	4
PI5624	Engineering Physics II	4
ET6651	Engineering Mechanics I OR	
ET6650	Mechanics - Statics & Dynamics	3/4
	Technical Elective†	3/4
	Humanities/Social Science Elective***	3
		<hr/> 17/19

FOURTH SEMESTER		CREDITS
PI5651	Engineering Physics III	4
	Technical Elective†	4
	Free Elective	3/4
	Humanities/Social Science Elective***	3
	Humanities/Social Science Elective***	3
		<hr/> 17/18

* This elective can be either the Introductory Chemistry sequence (CH5503, CH5504) or the General Chemistry sequence (CH5501, CH5502) depending on the background needs of the student.

** This elective can be either CT6620 Programming I or CT6682 Computer Applications in Engineering and Technology. See an Engineering Department faculty member before choosing a programming elective.

*** **Humanities/Social Science Electives:** Either EC3322 Micro Economics or EC3323 Macro Economics or both may be used to satisfy part of this requirement. During the first semester the student should contact the college to which he/she plans to transfer and then select both technical and general electives to fulfill transfer goals.

† Proposed technical electives from outside the lists below will be considered, but must be approved by the Chairperson, Department of Engineering Science.

Suggested Technical Electives for the various engineering branches (this list is not to be considered complete):

Civil Engineering: Micro Economics/Macro Economics, Survey I & II, Differential Equations, Programming I, Computer Applications in Engineering & Technology, Strength of Materials, Engineering Mechanics II.

Electronic/Electrical Engineering: Micro/Macro Economics, Differential Equations, Programming I, Computer Applications in Engineering & Technology, Strength of Materials, Fundamentals of Digital Logic, Networks I & II, Engineering Mechanics II.

Mechanical Engineering: Micro/Macro Economics, Engineering Mechanics II, Differential Equations, Programming I, Computer Applications in Engineering & Technology, Circuit Analysis I and II, Networks I & II, Strength of Materials.

Environmental Engineering: Micro/Macro Economics, Programming I, Computer Applications in Engineering & Technology, Introductory Biology, Microbiology.

Chemical Engineering: General Chemistry I & II, Special Topics in Chemistry, Micro/Macro Economics, Programming I, Computer Applications in Engineering & Technology.

††The Communication Elective is considered to be any of the English offerings (courses with an EN prefix). Highly recommended are EN8011 Speech and EN8020 Interpersonal Communications.

GENERAL STUDIES

The associate in arts degree in General Studies is designed to provide a flexible curriculum which combines a core of transfer courses (the program meets the requirements of the Commonwealth Transfer Compact) with an opportunity to explore occupational courses in such career areas as engineering, computer science, management and health professions. It is a practical program for students undecided about career objectives. 35/36 credit hours of work in core requirements plus 3 credits in Liberal Arts electives plus 24 free electives – a total of 62/63 credits are required for graduation.

CORE REQUIREMENTS*: 35/36 Credits CREDITS

Composition I and II	6
Behavioral Sciences	3
Foreign Languages/Philosophy/Religion/ Creative Arts	3
History/Government**	3
Humanities	3
Literature	3
Mathematics***	3/4
Social Science	3
Natural Science	8

* Corresponds with Commonwealth Transfer Compact requirements.

** It should be noted that two four-year colleges, Salem State and University of Massachusetts at Boston, require Western Civilization I and II for graduation in most programs. Political Science carries government credit.

*** Any math course except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra and MA5501 Intermediate Algebra, MA5613 Math of Finance.

ELECTIVES: 27 Credits CREDITS

Liberal Arts Electives*	3
Free Electives**	24

* Any course which falls within the disciplines of the core requirements.

** May include courses outside the Liberal Arts.

GENERAL STUDIES: COMMERCIAL ART OPTION

The two-year Commercial Art concentration has two basic objectives: to teach students the skills used in design, layout, reproduction, advertising, and other graphic arts professions; and secondly, to prepare students for professional schools and advanced work in graphic design, advertising, or desktop publishing. Part-time students, of course, will take more than two years to complete this program. This program offers practical training in the skills needed for entry-level jobs in the commercial design field, an exposure to career possibilities in graphic communication and a chance to develop a number of transferable skills. Courses in this program will also be available as electives to business and technology students – on a space available basis. An understanding of graphic design and commercial illustration will enrich almost any field of study, provide personal enrichment for our students, and enhance cultural growth in the arts. 63 credit hours of work are required for graduation.

FIRST SEMESTER CREDITS

EN4401	English Composition I	3
FA7030	Drawing I	3
FA7121	Macintosh Design	3
FA7096	Graphic Design I	3
HI9901	Western Civilization I	3
		15

SECOND SEMESTER CREDITS

EN4402	English Composition II	3
FA7080	Color & Design	3
FA7097	Graphic Design II	3
FA7122	Publication Design	3
HI9902	Western Civilization II	3
		15

THIRD SEMESTER CREDITS

	Natural Science**	4
FA7126	Advanced Publication Design	3
PS1101	Introduction to Psychology OR	3
SO3324	Cultural Anthropology	
FA9001	Illustration I	3
FA7031	Drawing II	3
FA7211	Portfolio for Graphic Design†	1
		16/17

FOURTH SEMESTER CREDITS

	Natural Science**	4
	Literature	3
	Math***	3
MK6679	Advertising OR	3
MG6686	Small Business Management	
	Art Elective*	3
FA7211	Portfolio for Graphic Design†	1
		16/17

* Recommended: FA7130 Animation, FA7051 Introductory Photography, Graphic Design Internship (Co-op), FA9005 Computer Illustration

** Recommended: Introduction to Biology I-II, Anatomy & Physiology I-II.

*** See math requirements for General Studies program. For some students, HU4401 Art, Math and Nature may be used for math requirement.

† May be taken during either the third or fourth semester.

GENERAL STUDIES: ILLUSTRATION OPTION

The Illustration Option is a two-year program for art students who have an interest in visual communication and are interested in pursuing a career in pictorial communication. Required coursework includes business studies, opportunities to take print-oriented projects from concept to final form, and the development of a portfolio that reflects a student's individual style, professionalism, and sensitivity to specific media considerations and markets. It is designed to teach students the entry-level skills used in commercial studio; and to prepare students for advanced work in four-year colleges, business, design, and advertising. Advanced students may also want to pursue freelance opportunities. 63 credit hours are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
FA7030	Drawing I	3
HI9901	Western Civilization I	3
FA7080	Color & Design	3
FA7121	Macintosh Design	3
		15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
FA7031	Drawing II	3
HI9902	Western Civilization II	3
FA9001	Illustration I	3
FA7096	Graphic Design I	3
		15

THIRD SEMESTER		CREDITS
	Natural Science*	4
MK6679	Advertising	3
PS1101	Introduction to Psychology OR	3
SO3324	Cultural Anthropology	
FA7210	Portfolio for Illustration†	1
FA9002	Illustration II	3
FA9005	Computer Illustration	3
		16/17

FOURTH SEMESTER		CREDITS
	Natural Science*	4
	Literature Elective	3
	Math Elective **	3
FA7210	Portfolio for Illustration†	1
FA7045	Figure Drawing	3
FA7130	Animation	3
		16/17

* Recommended: Introduction to Biology I & II or Anatomy & Physiology I & II.

** Any math course acceptable in General Studies program. For some students, HU4401 Art, Math and Nature may be used for math requirement.

*** Recommended Electives: Publication Design, Animation, Introduction to Photography, Painting I, Graphic Design II, Graphic Design Internship (Co-Op), Computer Illustration

† Can be taken during either the third or fourth semester.

HEALTH INFORMATION TECHNOLOGY

The associate in science degree program in Health Information Technology provides students an opportunity to take liberal arts courses and to apply knowledge obtained in technical courses through direct application in a clinical setting located off campus. Students who wish to continue their education in a four-year institution should choose electives which will fulfill the transfer requirements of the institution they choose. Job opportunities in hospitals, extended care facilities, mental health facilities, skilled nursing facilities, ambulatory care settings, community health centers, state and local health departments, regional medical programs and rehabilitation centers are available. **The program is accredited by the American Medical Association's Committee on Allied Health Education and Accreditation, in collaboration with the American Health Information Management Association.** Students who complete requirements for graduation are eligible to take the national accreditation examination of the American Health Information Management Association. 68 credit hours of work are required for graduation. For more information, see an advisor.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
BI5519	Anatomy & Physiology I	4
MR6605	Introduction to Medical Language I	3
MR6601	Medical Record Science I	3
HS6651	Introduction to Health Services	3
		16

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
BI5520	Anatomy & Physiology II	4
MR6606	Introduction to Medical Language II	3
MR6602	Medical Record Science II	3
MR6620	Directed Practice I*	4
CT3301	Computer Literacy for Health Professionals	1
		18

THIRD SEMESTER		CREDITS
MR6651	Medical Record Science III	3
CT6630	Introduction to Personal Computers	3
MR6629	Medical Record Coding & Classification	3
BI5530	Fundamentals of Disease Process	3
	Liberal Arts Elective	3
PS1101	Introduction to Psychology OR	
SO3321	Introduction to Sociology	3
		18

FOURTH SEMESTER		CREDITS
MR6655	Medical Record Science IV	3
MG6666	Principles of Management	3
	Elective	3
MR6622	Directed Practice II*	4
	Elective	3
		16

* Transportation to directed practice sites is the student's responsibility.

Students enrolled in Directed Practice must carry malpractice insurance.

HOTEL & RESTAURANT MANAGEMENT CERTIFICATE

The certificate program in Hotel and Restaurant Management is comprised of seven courses in the specialized area of Hotel and Restaurant Management. The program is targeted for those who are seeking employment upgrade in their field. Credits earned in the certificate program may be applied toward an associate degree in Business Management with a concentration in Hotel and Restaurant Management. 20/21 credit hours of work are required for the certificate.

MODULE I	CREDITS
HR6610 Introduction to Hospitality Management	3
AC6610 Introductory Accounting I	<u>3</u>
	6

MODULE I	CREDITS
HR6615 Hotel Operations & Organization Management	3
HR6635 Front Office Procedures	<u>3</u>
	6

MODULE III	CREDITS
HR6630 Food and Beverage Management	3
HR6640 Hotel and Restaurant Law	<u>3</u>
	6

MODULE IV	CREDITS
CO4401 Cooperative Education I OR	3
HR6645 Hospitality Seminar	<u>2</u>
	2/3

HUMAN SERVICES

The associate in science degree program in Human Services instructs students in the theories and skills needed to recognize mental health problems in individuals, groups and the community; to understand the structure of human services facilities and current modalities of treatment in human services including mental health, and to assist with physical rehabilitative therapies. Carefully supervised clinical experiences are part of the program and prepare students for middle level professional positions in various types of human services facilities. 61/62 credit hours of work are required for graduation. **The program is approved by the Council for Standards in Human Services Education. Admission Conditions:** Complete college admission requirements, two letters of reference, personal interview, health examination, liability insurance (taken out at time of registration at the college as part of tuition costs) and demonstration of a serious commitment to working in the human services delivery system to improve the care and services to individuals in need.

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
PS1101 Introduction to Psychology	3
MH2111 Introduction to Human Services	3
BI5510 Human Biology	3
Elective	3
MH2133 Observation & Recording of Human Services Programs	<u>1</u>
	16

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
Elective	3
Natural Science Elective	3/4
MH2155 Modalities of Treatment	3
MH2134 Human Services Practicum I	<u>4</u>
	16/17

THIRD SEMESTER	CREDITS
PS1751 Abnormal Psychology	3
MH2143 Human Services Practicum II	4
MH2147 Group Dynamics	3
GV3310 American Government & Politics	<u>3</u>
	13

FOURTH SEMESTER	CREDITS
MH2166 Seminar in Human Services	3
MH2144 Human Services Practicum III	4
FA7012 Introduction to the Creative Experience	3
Sociology Elective	3
MH2156 Behavior Mgt. Principles & Techniques	<u>3</u>
	16

Note: See Commonwealth Transfer Compact requirements in this catalog. All courses with an "MH" prefix are restricted to students enrolled in the Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling programs. Other students may take MH prefix courses, depending upon class size, with written permission of the coordinator.

LIBERAL ARTS

The Liberal Arts Program is designed to foster the development of the well rounded individual. It encourages students to acquire knowledge, skills and abilities to make sound judgments, to reach reasoned conclusions and to express themselves confidently and effectively. This program is designed for those who seek immediate transfer to a four year educational institution and for those wishing to enter the job market.

The associate in arts degree in Liberal Arts requires students to complete: 44 credit hours of work in core courses and 18 credit hours of work in elective courses for a total of 62 credits.

CORE REQUIREMENTS: 44 credits	CREDITS
Composition I and II	6
Behavioral Sciences*	6
Foreign Languages/Philosophy/Religion	
Creative Arts**	6
History/Government***	6
Literature†	6
Mathematics††	6
Natural Science†††	8

* All courses offered in Anthropology, Psychology and Sociology; i.e., with PS and SO prefixes.

** Art, Dance, Music, Photography, Theatre.

*** All courses with GV and HI prefixes.

† Any course offered by the Department of English which includes the word "literature" anywhere in the course title.

†† Any math (MA) course except the following: MA0020 Basic Mathematics, MA0030 Basic Algebra, MA5501 Intermediate Algebra and MA5613 Math of Finance.

††† Two science courses with laboratory requirements.

ELECTIVES: 18 Credits (or more). Electives include any course offered by the departments of English; Foreign Languages; Philosophy & Religion; Creative Arts; History & Government (including GE prefix, Geography); Behavioral Sciences; Mathematics and Natural Sciences. Students may also take up to 3 credits in the Department of Sport & Leisure Studies and/or up to 6 credits in college level courses offered by any other department in the college. (Additional electives in other areas must be approved in advance by the Dean of Academic Services & the Liberal Arts chairpersons.)

Planning Your Liberal Arts Program: In order to help students focus their Liberal Arts studies more effectively and choose courses which meet their individual needs and interests, Northern Essex has developed a number of suggested approaches to the scheduling of courses in the Liberal Arts program. These include Degree Options and two Degree Concentrations. Students can design their own program of study with help from faculty advisors. All students who wish to transfer should consult the catalogs of four year institutions for specific program requirements.

NOTE: Eligible students may complete part of their core and elective requirements via a Northern Essex Study Abroad Program. Contact the director, Study Abroad Programs at 508-374-3969.

LIBERAL ARTS DEGREE CONCENTRATIONS

Students matriculated in the Liberal Arts program may take up to 18 credits offered by any other department if they are identified as being enrolled in an approved Liberal Arts degree concentration. Unless otherwise noted, the core requirements of the Liberal Arts Degree must be met. The following Degree Concentrations are currently available.

LIBERAL ARTS:

COMPUTER SCIENCE DEGREE CONCENTRATION

The Liberal Arts degree concentration in Computer Science is offered by the Department of Computer & Information Science and the Liberal Arts divisions. This degree concentration provides study in liberal arts and computer science and is designed for those students who may wish to transfer to a four-year institution. This program is also designed to meet individual student needs and career goals in the broad fields encompassing computers and information processing. 64-69 credit hours of work are required for graduation.

FIRST SEMESTER	CREDITS
Category I or II elective	3/4
EN4401 English Composition I	3
Math Elective*	4
HI9901 Western Civilization I	3
Elective or Keyboarding**	3
	16/17

SECOND SEMESTER	CREDITS
CT6620 Programming I	4
EN4402 English Composition II	3
Math Elective*	3/4
HI9902 Western Civilization II	3
Literature Elective	3
	16/17

THIRD SEMESTER	CREDITS
Category II Elective	3/4
Category III Elective	3/4
Behavioral Science Elective	3
Philosophy/Creative Arts/	
Foreign Language Elective	3
Natural Science Elective	4
	16/18

FOURTH SEMESTER	CREDITS
Category II Elective	3/4
Behavioral Science Elective	3
Literature Elective	3
Philosophy/Creative Arts/	
Foreign Language Elective	3
Natural Science Elective	4
	16/17

(Continued Next page)

* Math chart for Computer Programs starting at the level of College Algebra & Trigonometry. See Liberal Arts Math requirement.

** Students must have a keyboarding skill of 25 words per minute with no more than 1 error per minute on unfamiliar material or TW6640 Keyboarding I must be taken in the first semester. Elective may not include any developmental courses such as Basic Math, Basic Algebra, Basic Reading or Basic Writing.

Technical Writing EN4676 is strongly recommended as a Category III elective.

The following five courses must be taken from the Department of Computer & Information Sciences:

CT6620	Programming I
1	Course from Category I or II
2	Courses from Category II
1	Course from Category III

Category I:

CT6630	Introduction to Personal Computers
CT6626	Introduction to Information Processing/BASIC
CT6682	Computer Applications in Engineering & Technology

CT6670	Introduction to CAD/CAM
CT7000	Introduction to PC/Macintosh

Category II (most of these courses require prerequisites):

CT6641	Operating Systems
CT6681	Advanced Data Base Mgt Software
CT6632	Personal Computer Applications

Category III:

Upper level math course or Technical Writing or any 4 credit Computer Technology course.

LIBERAL ARTS: PHYSICAL EDUCATION/RECREATION DEGREE CONCENTRATION

The Liberal Arts degree concentration in Physical Education and Recreation is offered by the Department of Sport & Leisure Studies and the Liberal Arts divisions. The concentration is designed to meet individual needs and career goals in the broad fields of both recreation and physical education. There is enough built in flexibility within the concentration to allow students an opportunity to explore the various career alternatives within the whole range of leisure services. Students will also have an opportunity to transfer to leisure service programs at the baccalaureate level.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
PE2001	Introduction to Physical Education	3
	History & Government Elective	3
	Math Elective*	3
		15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
SO3321	Introduction to Sociology	3
PE2020	Foundations of Health and Fitness	3
	History & Government Elective	3
	Math Elective**	3
		15

THIRD SEMESTER		CREDITS
PE2296	Aerobics in Theory and Practice	2
	Natural Science Elective	4
	Humanities Elective	3
	Literature Elective	3
	Category I or II Elective**	4
		16

FOURTH SEMESTER		CREDITS
PE2012	First Aid & CPR	3
	Natural Science Elective	4
	Humanities Elective	3
	Literature Elective	3
	Category I or II Elective**	3
		16

Category I Electives: PE1057 Ballet, PE1008 Canoeing, PE1038 Cross-Country Skiing, PE1044 Cycling, PE1011 Fly Fishing, PE1014 Golf, PE1063 Jazz, PE1042 Jogging, PE1018 Modern Dance, PE1050 Racquetball, PE1031 Weight Training, PE1041 Yoga, or any other appropriate skills course approved by the Department Chairperson.

Category II Electives: FA7094 Dance Composition, FA7091 Dance in Performance, CO4401 Cooperative Education

* See Liberal Arts Math requirement.

** A total of 3 or 4 credits can be earned by a combination of category I electives and category II electives.

LIBERAL ARTS DEGREE OPTIONS

Specific degree options within Board of Regents approved degree programs will recommend or require a minimum of either six courses or twenty credits as defined within the college catalog and will be included on the college transcript. These options are carefully reviewed for degree applicability and have been approved by the College. **Students should meet with their advisors for clarification of degree requirements and application of their transfer credits and/or work experience towards program requirements.**

LIBERAL ARTS: CREATIVE ARTS OPTION

The Liberal Arts option in Creative Arts allows students to explore their interest in dance, music, theatre or art. Students may select introductory and specialized courses in each of these areas. Drama, dance and musical productions are presented each year, offering an excellent opportunity for practical experience.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
HI9901	Western Civilization I	3
FA7020	Introduction to Creative Arts	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** OR	
	Free Elective***	3
		<hr/> 15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
HI9902	Western Civilization II	3
HU4000	Introduction to Humanities	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** OR	
	Free Elective***	3
		<hr/> 15

THIRD SEMESTER		CREDITS
	Natural Science Elective	4
EN8861	Western Literature Before 1600	3
	Behavioral Science Elective	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** OR	
	Free Elective***	3
		<hr/> 16

FOURTH SEMESTER		CREDITS
	Natural Science Elective	4
EN8862	Western Literature Since 1600	3
SO3324	Cultural Anthropology	3
	Art, Dance, Music, Theatre Elective*	3
	Math Requirement** OR	
	Free Elective***	3
		<hr/> 16

* Students must take at least 3 credits in each of the following areas: **Dance:** Dance Composition; Dance in Performance; Modern Dance, I, II, III & IV; Ballet I & II; Jazz I & II. **Theatre:** Intro. to Theatre, Acting, Mime, History of Theatre. **Visual Arts:** Introduction to Art, Painting, Drawing. **Music:** Intro. to Music, History of Jazz, Music Reading.

** See Liberal Arts Math requirement.

*** **Free Electives:** Includes any course offered by the departments of English, Foreign Languages/Philosophy/Religion, Creative Arts, History & Government, Behavioral Sciences, Mathematics, Natural Sciences and Business. Students may also take up to 3 credits in the Department of Sport & Leisure Studies and/or up to 6 credits in courses offered by any other department of the college.

LIBERAL ARTS:**CROSS-CULTURAL OPTION**

This course sequence is designed as a suggested curriculum for students who wish to include an intercultural perspective in their curriculum at Northern Essex. This option takes into account the requirements for an Associate in Arts Degree in Liberal Arts. 62-64 credits required for graduation.

GROUP I		CREDITS
EN4401	English Composition I	3
SO3321	Introduction to Sociology with Cross Cultural Perspective	3
	Foreign Language OR	
HU4000	Introduction to Humanities	3
GE9511	Introduction to Geography	3
	Mathematics Elective****	3/4
		<hr/> 15/16

GROUP II		CREDITS
EN4402	English Composition II	3
SO3324	Cultural Anthropology	3
HI9900	Contemporary World OR	3
HU4000	Introduction to Humanities	
	Foreign Language OR	
HU4000	Introduction to Humanities	3
	Mathematics Elective****	3/4
		<hr/> 15/16

GROUP III		CREDITS
SO3333	Contemporary Social Problems	3
	Natural Science	4
	Literature Elective***	3
HI9955	Minority Groups in America	3
GV3312	Introduction to Political Science	3
		<hr/> 16

GROUP IV		CREDITS
	Natural Science	4
	Literature Elective***	3
	Free Elective	3
	Philosophy/Religion Elective**	3
	History Elective*	3
		<hr/> 16

* Modern China and Japan; Western Civilization I; Western Civilization II; Politics and Society in Eastern Europe; Twentieth Century Russia; American Government and Politics; American Foreign Policy; and Recent U.S. History.

** World Religions

*** Western Literature; British Literature; Women's Lives; Women in Literature and Life.

**** See Liberal Arts Math requirement.

LIBERAL ARTS: DANCE OPTION

The Northern Essex Dance Program allows you to experience the feeling, enthusiasm, and spirit of dance through class and performance situations. Students will develop ease of movement, coordination and endurance as they learn the technical skills that the program provides. You will also learn the choreographic skills which enable you to express your creative potential and to learn to direct and manipulate movement in a solo or group setting. 63 credits are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
HI9901	Western Civilization I	3
	Math Requirement*	3
FA7094	Dance Composition	3
PE1070	Ballet I	2
PE1018	Modern Dance	1
		<u>15</u>
SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
HI9902	Western Civilization II	3
	Math Requirement*	3
FA7091	Dance in Performance	3
PE1063	Jazz I**	1
PE1064	Jazz II**	1
PE1071	Ballet II	2
		<u>16</u>
THIRD SEMESTER		CREDITS
EN8861	Western Literature I	3
SO3324	Cultural Anthropology	3
	Natural Science***	4
FA7020	Introduction to Creative Arts OR	
FA7090	Dance Repertory	3
	Liberal Arts Elective	3
		<u>16</u>
FOURTH SEMESTER		CREDITS
EN8862	Western Literature II	3
	Behavioral Science Elective	3
	Natural Science***	4
FA7020	Introduction to Creative Arts OR	
FA7090	Dance Repertory	3
	Liberal Arts Elective	3
		<u>16</u>

Students must take at least 15 credits in dance: Dance Composition; Dance in Performance; Pedagogy; Repertory; Modern Dance I, II, III, IV; Ballet I, II; Jazz I, II. Directed Studies courses are available in Dance History and Ballet in Performance.

* See Liberal Arts Math requirement.

** Modern Dance II or Directed Studies can be substituted with permission of instructor.

*** Recommended: Anatomy and Physiology I and II.

Still Point: High point of the Dance Program is the annual spring dance performance, Still Point. This production combines many areas of dance: modern, jazz, ballet, African.

Dance Club: The Dance Club exists for the purpose of providing physical and creative expression and an awareness of the joy of movement. It encourages participation by faculty and alumni as well as students. Dance Club members also participate in Still Point. The Still Point Dancers, the dance company of the college, are part of the Dance Club. They are a touring company and perform in schools and colleges and participate in various community and college activities.

**LIBERAL ARTS:
HISTORY OPTION**

The Liberal Arts option in History offers guidance in course selection to students interested in pursuing a bachelor's degree in History. Although this sequence takes into account prerequisites in the History departments in many New England colleges, it is only a suggested course sequence. Students interested in a history major should consult with an advisor concerning appropriate history electives.

GROUP I		CREDITS
EN4401	English Composition I	3
	Math Elective*	3
	Behavioral Science Elective	3
	Foreign Language Elective	3
HI9913	U.S. History I OR	
HI9901	Western Civilization I OR	
HI9904	World Civilization I	3
		<u>15</u>
GROUP II		CREDITS
EN4402	English Composition II	3
	Math Elective*	3
	Behavioral Science Elective	3
	Foreign Language Elective	3
HI9914	U.S. History II OR	
HI9902	Western Civilization II OR	
HI9905	World Civilization II	3
		<u>15</u>
GROUP III		CREDITS
	Literature Elective	3
	Science Elective	4
EC3322	Micro Economics	3
GE9511	Introduction to Geography	3
	History/Government Elective	3
		<u>16</u>
GROUP IV		CREDITS
	Literature Elective	3
	Natural Science Elective	4
EC3323	Macro Economics	3
	History/Government Electives	6
		<u>16</u>

* See Liberal Arts Math requirement.

History/Government Electives: HI9900 The Contemporary World, HI9916 Recent U.S. History, HI9917 The Family in History, HI9953 Modern China and Japan, HI9955 Minority Groups in America, HI9956 American Foreign Policy, HI9958 History of the Soviet Union, HI9959 History of Latin America, HI9960 The Modern Middle East, HI9962 Women's History, GV3310 American Government and Politics, and GV3320 Women and the Law.

NOTE: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group, of courses.

LIBERAL ARTS:**INTERNATIONAL RELATIONS OPTION**

This course sequence is designed as a suggested curriculum for students who wish to include an international perspective in their curriculum at Northern Essex but are unable to study overseas. This option takes into account the requirements for an Associate in Arts Degree in Liberal Arts.

GROUP I		CREDITS
EN4401	English Composition I	3
SO3321	Introduction to Sociology with Cross Cultural Perspective	3
	Foreign Language	3
GE9511	Introduction to Geography	3
	Mathematics Elective*	<u>3/4</u>
		15/16

GROUP II		CREDITS
EN4402	English Composition II	3
SO3324	Cultural Anthropology	3
HI9900	Contemporary World	3
	Foreign Language	3
	Mathematics Elective*	<u>3/4</u>
		15/16

GROUP III		CREDITS
EC3322	Micro Economics	3
	Natural Science	4
	Literature Elective**	3
GV3312	Introduction to Political Science	3
	History Elective†	<u>3</u>
		16

GROUP IV		CREDITS
	Natural Science	4
	Literature Elective**	3
	Free Elective††	3
	Philosophy/Religion Elective***	3
	History Elective†	<u>3</u>
		16

* See Liberal Arts Math requirement.

** Western Literature, British Literature, Women's Lives, Women in Literature and Life.

*** World Religions

† Western Civilization I, Western Civilization II, World Civilization I & II, American Foreign Policy, History of Latin America, Twentieth Century Russia, Politics and Society in Eastern Europe, Modern China and Japan, Modern Middle East.

†† Macro Economics or International Business recommended.

NOTE: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group, of courses.

LIBERAL ARTS:**JOURNALISM/BROADCASTING OPTION**

As a student in the Journalism/Broadcasting Option at Northern Essex, you will learn what it's like to work in the communications field, a choice which can ultimately lead to career opportunities in newspapers, magazine, publishing, television or radio. At Northern Essex, we provide you with the basic courses and practical experience which will prepare you for a career in print or broadcast journalism. A full two-year sequence of courses in print journalism guarantees students the most comprehensive introduction to print journalism available at any two-year college in Massachusetts. 62 credits are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
EN3101	Journalism I	3
EN3334	TV Production I	3
GV3310	American Government & Politics	3
FA7121	Macintosh Design	<u>3</u>
		15

SECOND SEMESTER		CREDITS
EN3102	Journalism II	3
EN3333	Broadcast Reporting	3
PS1101	Introduction to Psychology	3
	History/Government Elective	3
	Fine Arts Elective*	<u>3</u>
		15

THIRD SEMESTER		CREDITS
EN4402	English Composition II	3
	Natural Science	4
	Literature Elective	3
	Math Elective**	3
EN3110	Copy Editing OR Elective	<u>3</u>
		16

FOURTH SEMESTER		CREDITS
SO3321	Introduction to Sociology OR	3
SO3324	Cultural Anthropology	
	Natural Science	4
	Literature Elective	3
	Math Elective**	3
EN3103	Journalism Practicum OR	<u>3</u>
	Elective	16

* FA7051 Introductory Photography and FA7122 Publication Design are recommended for Fine Arts electives.

** See Liberal Arts Math requirement.

**LIBERAL ARTS:
LEGAL STUDIES OPTION**

This program provides valuable understanding of the impact of legal issues in a variety of fields in contemporary society. Since law is permeating increasingly various areas of everyday life, a focus on legal issues provides a much needed component to a well-rounded education and a good preparation for a four year Liberal Arts transfer program. A total of 63-65 credit hours of work are required.

GROUP I CREDITS

EN4401	English Composition I	3
	Math Elective*	3/4
SO3324	Cultural Anthropology	3
GV3300	Introduction to Law	3
	History Elective	3
		<u>15/16</u>

GROUP II CREDITS

EN4402	English Composition II	3
GV3312	Introduction to Political Science	3
GV3301	U.S. Constitutional Law	3
	Math Elective*	3/4
	History Elective	3
		<u>15/16</u>

GROUP III CREDITS

GV3315	Civil Rights and Liberties	3
	Literature Elective	3
LW6670	Legal Research and Writing	4
	Science Elective	4
	Foreign Language or Philosophy***	3
		<u>17</u>

GROUP IV CREDITS

	Behavioral Science Elective**	3
	Cooperative Education (in Legal Area)	3
	Literature Elective	3
	Foreign Language or Philosophy	3
	Science Elective	4
		<u>16</u>

* See Liberal Arts Math requirement.

** Choose one of the following:

- SO3333 Contemporary Social Problems
- SO3353 Introduction to Criminology
- SO3355 Introduction to Social Welfare
- SO3343 Juvenile Delinquency (Prerequisite SO3321)
- SO3360 Race and Ethnic Relations
- PS1351 Social Psychology (Prerequisite PS1101 or SO3321)
- SO3358 Women and Society

***Spanish I or II highly recommended

Students are urged to develop basic computer literacy skills in preparation for transfer to a four year institution.

**LIBERAL ARTS:
MUSIC OPTION**

The Liberal Arts option in Music offers guidance in course selection to students interested in preparing for careers in music, either those seeking professional work or those seeking transfer to four year colleges. Students are prepared to transfer to college curriculums and/or pursue professional work in the jazz, pop and classical areas of music. Students enrolled in the music option should plan on taking at least 18 credits but no more than 24 credits in music courses. 62 credit hours of work are required for graduation.

FIRST SEMESTER CREDITS

MU7061	Music Reading & Theory I*	3
MU7051	Introduction to Music*	3
EN4401	English Composition I	3
MA5520	Liberal Arts Math I	3
PS1101	Introduction to Psychology	3
		<u>15</u>

SECOND SEMESTER CREDITS

MU7062	Music Reading & Theory II*	3
MU7052	Survey of Music: Ancient to Modern Times*	3
EN4402	English Composition II	3
MA5525	Liberal Arts Math II	3
	Behavioral Science Elective	3
		<u>15</u>

THIRD SEMESTER CREDITS

MU7131	Music Technology: Sound*	3
	Music Elective*	3
HI9901	Western Civilization I	3
	Literature Elective	3
	Natural Science	4
		<u>16</u>

FOURTH SEMESTER CREDITS

MU7132	Music Technology: Composition*	3
	Music Elective	3
HI9902	Western Civilization II	3
	Literature Elective	3
	Natural Science	4
		<u>16</u>

Recommended Music Electives:

- MU7110 Chorus I
- MU7111 Chorus II
- MU7097 Performance Ensemble I
- MU7098 Performance Ensemble II
- MU7080 Piano
- Directed Studies - Music
- MU7100 Harmony

* These courses are required for completion of the Music Option of the Liberal Arts Program. Other courses identified are strongly recommended and may only be changed after consultation with the Program Advisor and Assistant Dean of the Humanities Division. Distribution requirements for Liberal Arts Program apply.

LIBERAL ARTS: PHILOSOPHY OPTION

The Philosophy Option within the Liberal Arts Program provides a base for a variety of personal goals. Philosophy is a handle on the door of opportunity, sharpening our ability to think clearly, evaluate ideas, assess options and to make reasoned decisions. These are useful skills for personal, career and professional life. Whether one majors in philosophy or in some other field of liberal arts at a four-year college or university, the philosophy option provides a solid foundation for branching off in many exciting directions. Philosophy students move into fields of law, public service, religion, education, journalism, the arts, corporate management and business, using to good advantage their exposure to wide-ranging ideas and viewpoints and their ability to understand and to reason. Leaders of major corporations say, "Give us people who know how to think, and we will train them in our specialties." The Philosophy Option will sharpen your intellect for whatever the future may bring. 62 credits are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
HI9901	Western Civilization I*	3
PH1101	Introduction to Philosophy*	3
	Math Elective**	3
PS1101	Introduction to Psychology	3
		15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
HI9902	Western Civilization II*	3
PH1102	Basic Issues in Philosophy*	3
	Math Elective**	3
PH1150	Practical Logic*	3
		15

THIRD SEMESTER		CREDITS
	Science Elective	4
	Literature Elective	3
RE1101	World Religions*	3
PH1141	Ethics*	3
	Elective	3
		16

FOURTH SEMESTER		CREDITS
	Science Elective	3
	Literature Elective	3
	Behavioral Science Elective	3
	Elective	3
	Elective	4
		16

* Required courses in option.

** See Liberal Arts Math requirement.

Recommended Electives: PH1151 Logic, PH0001 Early and Medieval Philosophy, PH0002 Modern Philosophy, PH0201 Bioethics may be taken in the third and fourth semesters.

LIBERAL ARTS: POLITICAL SCIENCE OPTION

The Liberal Arts option in Political Science offers guidance in course selection to students interested in pursuing a bachelor's degree in Political Science, Government, or Public Administration. Although this sequence takes into account prerequisites in these departments in many New England colleges, it is only a suggested course sequence. Students interested in further study in these areas should consult with an advisor concerning appropriate electives.

GROUP I		CREDITS
EN4401	English Composition I	3
	Math Elective*	3
	Behavioral Science Elective	3
GV3312	Introduction to Political Science	3
	Foreign Language Elective	3
		15

GROUP II		CREDITS
EN4402	English Composition II	3
MA5673	Quantitative Methods	3
	Behavioral Science Elective	3
GV3310	American Government & Politics	3
	Foreign Language Elective	3
		15

GROUP III		CREDITS
	Literature Elective	3
	Science Elective	4
EC3322	Micro Economics	3
GE9511	Introduction to Geography	3
	Government/History Elective	3
		16

GROUP IV		CREDITS
	Literature Elective	3
	Science Elective	4
EC3323	Macro Economics	3
	Government/History Electives	6
		16

* See Liberal Arts Math requirement.

Government/History Electives: U.S. History I and II strongly recommended and other government courses such as Introduction to Law, Constitutional Law, Civil Rights, Minority Groups in America, and Recent U.S. History.

NOTE: Students are urged to consult with transfer institutions prior to selecting electives. As well, students should complete all of the courses in each group, prior to proceeding to the next group of courses.

LIBERAL ARTS:**PSYCHOLOGY TRANSFER OPTION**

The purpose of the Psychology Transfer Option is to prepare those students who are interested in pursuing career opportunities in the field of Psychology and are intending to transfer to a four year institution. The 62 credits of course work outlined below provide students with the basic liberal arts courses necessary for transfer. In addition it exposes students to introductory level psychology courses, as well as the other related behavioral sciences that provide students with a strong academic background for further study at the Bachelor's level and beyond.

CREDIT REQUIREMENTS

EN4401/

EN4402 English Composition I & II (6 credits)
Literature* (6 credits)

BI5515/

BI5525 Introductory Biology I & II (8 credits)

HI9904/

HI9905 World Civilization I & II** OR

HI9901/

HI9902 Western Civilization I & II (6 credits)**

PH1101

PH1101 Introduction to Philosophy (3 credits)
Philosophy/Foreign Language/
Religion/Fine Arts Elective *** (3 credits)
Math Elective**** (6 credits)

PS1101

PS1101 Introduction to Psychology (3 credits)

SO3321

SO3321 Introduction to Sociology (3 credits)

SO3324

SO3324 Cultural Anthropology (3 credits)
PS1751 Abnormal Psychology OR

PS1154

PS1154 Psychology of Personality (3 credits)
Psychology Elective from Developmental

Area† (3 credits)

Sociology Elective†† (3 credits)

Electives††† (6 credits)

* Sequential literature courses highly recommended.

** Inquire at transfer institution to determine appropriate selection.

*** Foreign language highly recommended.

**** Any math course at or above the level of College Algebra and Trigonometry (MA56221 highly recommended). See Math Chart.

† PS1151 Child Psychology; PS1152 Adolescent Psychology; PS1210 Developmental Psychology I; PS1211 Developmental Psychology II

†† Any course beginning with SO prefix.

††† Recommended courses include CT6630 Introduction to Personal Computers and/or foreign language.

LIBERAL ARTS:**SCIENCE OPTIONS**

The four Liberal Arts options in Science are designed as a suggested curricula for students who decide early they would like to earn a bachelor's degree in science. Although these sequences have taken into account prerequisites in science departments at New England universities, they are only suggested course sequences. Students are advised to consult with the Admissions Office/Science Department at the school to which they plan to transfer for their preferred sequence of course electives. The math, chemistry and physics course you take will depend on your high school science background. For some students, it is better to start with a more basic course such as Introductory Chemistry before General Chemistry, College Algebra and Trigonometry before Calculus I, etc. Such introductory courses may not transfer towards a science degree at many colleges/universities. With the advice of a faculty advisor, and even with a decision in the student's second year to become a science major, other course sequences (with some concentration in the sciences) may serve the same purpose for the Liberal Arts transfer students. Students interested in science should contact the Chairperson of the Department of Natural Sciences for additional information.

LIBERAL ARTS:**CHEMISTRY OPTION**

FIRST SEMESTER	CREDITS
EN4401 English Composition I	3
MA5690 Calculus I	4
CH5501 General Chemistry I	4
Science Elective	4
Behavioral Science Elective	3
	18

SECOND SEMESTER	CREDITS
EN4402 English Composition II	3
MA5692 Calculus II	4
CH5502 General Chemistry II	4
PI5623 Engineering Physics I	4
History/Government Elective	3
	18

THIRD SEMESTER	CREDITS
MA5693 Calculus III	4
PI5624 Engineering Physics II	4
Literature Elective	3
Behavioral Science Elective	3
Language Elective	3
	17

FOURTH SEMESTER	CREDITS
MA5685 Differential Equations	4
Science Elective	4
Literature Elective	3
History/Government Elective	3
Language Elective	3
	17

**LIBERAL ARTS:
BIOLOGY OPTION**

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
MA5675	Calculus I for Business/Social/ Life Sciences OR	
MA5690	Calculus I	3/4
BI5515	Introductory Biology I	4
CH5501	General Chemistry I	4
	Behavioral Science Elective	<u>3</u>
		17/18
SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
MA5676	Calculus II for Business/Social/ Life Sciences OR	
MA5692	Calculus II	3/4
BI5525	Introductory Biology II OR Biology Elective*	4
CH5502	General Chemistry II	4
	History/Government Elective	<u>3</u>
		17/18
THIRD SEMESTER		CREDITS
	Physics Elective**	4
BI5553	Microbiology	4
	Literature Elective	3
	Language Elective	3
	Behavioral Science Elective	<u>3</u>
		17
FOURTH SEMESTER		CREDITS
	Physics Elective**	4
	Biology Elective* OR	
	Computer Science Elective***	3/4
	Literature Elective	3
	Language Elective	3
	History/Government Elective	<u>3</u>
		16/17

**LIBERAL ARTS:
EARTH SCIENCE OPTION**

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
MA5690	Calculus I	4
CH5501	General Chemistry I	4
	Science Elective	4
	Behavioral Science Elective	<u>3</u>
		18
SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
MA5692	Calculus II	4
CH5502	General Chemistry II	4
PI5623	Engineering Physics I	4
	History/Government Elective	<u>3</u>
		18
THIRD SEMESTER		CREDITS
ES5502	Physical Geology	4
MA5693	Calculus III	4
PI5624	Engineering Physics II	4
	Literature Elective	3
	Language/Philosophy/Religion/ Creative Arts Elective	<u>3</u>
		18
FOURTH SEMESTER		CREDITS
ES5501	Meteorology	4
	Literature Elective	3
	Behavioral Science Elective	3
	History/Government Elective	3
	Language/Philosophy/Religion/ Creative Arts Elective	<u>3</u>
		16

* BI6605 General Zoology; BI6600 General Botany;
SC0000 Research Topics in Science.

** PI5621-22 Applied Physics I & II; PI5623-2
Engineering Physics I & II.

*** CT6630 Introduction to Personal Computers.

**LIBERAL ARTS:
PHYSICS OPTION**

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
MA5690	Calculus I	4
CH5501	General Chemistry I	4
	Science Elective	4
	Behavioral Science Elective	3
		<u>18</u>

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
MA5692	Calculus II	4
CH5502	General Chemistry II	4
PI5623	Engineering Physics I	4
	History/Government Elective	3
		<u>18</u>

THIRD SEMESTER		CREDITS
MA5693	Calculus III	4
PI5624	Engineering Physics II	4
	Literature Elective	3
	Behavioral Science Elective	3
	Language Elective	3
		<u>17</u>

FOURTH SEMESTER		CREDITS
MA5685	Differential Equations	4
PI5624	Engineering Physics III	4
	Literature Elective	3
	History/Government Elective	3
	Language Elective	3
		<u>17</u>

**LIBERAL ARTS:
SOCIAL WORK TRANSFER OPTION**

Within the context of an Associate in Arts degree, the Social Work option is designed for students who wish to begin preparation for a position in public and private social work agencies and/or intend to transfer into a four-year degree program in social work. The sixty-two credits of course work outlined below provide a solid introduction to liberal arts courses and to the purposes, techniques and problems associated with the field of social work.

CREDIT REQUIREMENTS

EN4401/	
EN4402	English Composition I & II (6 credits)
	Literature* (6 credits)
BI5515/	
BI5525	Biology I & II (8 credits)
HI9904/	
HI9905	World Civilization I & II** OR
HI9901/	
HI9902	Western Civilization I & II (6 credits)**
PH1101	Introduction to Philosophy (3 credits)
	Philosophy, Foreign Language,
	Religion, Fine Arts *** (3 credits)
	Math † (6 credits)
PS1101	Introduction to Psychology (3 credits)
SO3321	Introduction to Sociology (3 credits)
SO3355	Introduction to Social Welfare (3 credits)
PS1210	Developmental Psychology I OR
PS1211	Developmental Psychology II (3 credits)
SO3324	Cultural Anthropology (3 credits)
	Social Science Electives †† (6 credits)
	Free Elective ††† (3 credits)

* Sequential literature courses highly recommended. (any courses offered by the English Department which include the word "literature" in the title)

** Inquire at transfer institution to determine appropriate selection.

*** Foreign language highly recommended.

† Math recommended courses are Statistics (MA5506) and any other math course at or above the level of College Algebra and Trig (MA5621). See Math Chart. (Note which math courses do not meet core requirements for Liberal Arts students.)

†† Any PS, SO, HI, GV, or GE prefix course.

††† CO4401 Cooperative Education course highly recommended

LIBERAL ARTS:**TEACHER PREPARATION OPTION**

The Liberal Arts option in Teacher Preparation is a transfer program designed to provide a strong foundation in the arts and sciences through a required distribution of liberal arts courses; an opportunity to begin course work in a major; and an introduction to the teaching profession (pre-professional preparation in education). The program objectives are threefold: (1) to help students cultivate knowledge, skills and attitudes essential for a contemporary global society; (2) to prepare for successful transfer to four-year institutions; and (3) to begin preparing those interested in teaching as a career field.

1. PROGRAM REQUIREMENTS

- a. Completion of a non-Western civilization course;
- b. demonstrated computer competency at the CT6630 Introduction to Personal Computers course level;
- c. attendance at a number of scheduled program activities, including orientation, club activities, transfer meetings, as well as special programs and events;
- d. completion of 64 credits of course work.

2. CREDIT REQUIREMENTS (See Notes Below): 64

a. Liberal Arts Core	44
English Composition I and II	6
Literature	6
Foreign Language*/Philosophy/ Religion/Creative Arts	6
Mathematics	6
Sciences	8
Behavioral Sciences	6
History and Government	6
b. Teacher Preparation Option Credits	20
Exploring Education I	4
Exploring Education II	4
Liberal Arts Electives**	9
Free Elective	3
TOTAL CREDITS	64

Notes: Advising is the central component throughout this program. Students will only be allowed to register for Teacher Preparation Option credits if the appropriate advisor's signature is obtained.

* Highly recommended for students who do not have a competency in a second language.

** In selecting the elective courses, students will be guided by their anticipated choice of discipline major, the level of teacher certification to be sought and the aforementioned program requirements.

For all of the above courses, students must confer/consult: Department of Education certification requirements, Commonwealth of Massachusetts Transfer Compact, specific transfer institutions and the NECC teacher preparation requirements.

Graduation Recommendation: Since a number of transfer institutions require a QPA greater than 2.50, we recommend that our students strive for an overall minimum QPA of 2.75.

LIBERAL ARTS:**THEATRE OPTION**

The Liberal Arts option in Theatre offers several introductory courses for academic credit over a two-year period. Students need not be planning a career in theatre to benefit. Theatre study and experience is appropriate for those seriously interested professionally as well as students seeking elective credits. Because of the size of the classes and the various curricular and extracurricular theatre activities, the student has an excellent opportunity for on-stage or backstage experience. This can contribute to greater and more rapid personal growth. 62 credits are required for graduation.

FIRST SEMESTER**CREDITS**

EN4401	English Composition I	3
HI9901	Western Civilization I	3
TH7765	Introduction to Theatre OR Theatre Elective*	3
TH7769	Acting	3
	Free Elective	3
		15

SECOND SEMESTER**CREDITS**

EN4402	English Composition II	3
HI9902	Western Civilization II	3
HU4000	Introduction to Humanities	3
TH7768	Scene Study OR Theatre Elective*	3
EN8011	Speech	3
		15

THIRD SEMESTER**CREDITS**

	Natural Science	4
	Literature Elective	3
	Behavioral Science Elective	3
	Theatre Elective*	3
	Math Requirement**	3
		16

FOURTH SEMESTER**CREDITS**

	Natural Science	4
	Literature Elective	3
	Behavioral Science Elective	3
	Theatre Elective*	3
	Math Requirement**	3
		16

* Theatre courses are offered on an alternating basis over a period of time. Theatre courses are: TH7775 Fundamentals of Play Production: Directing, TH7795 History of Theatre, TH7799 Rehearsal and Performance, TH7760 Stagecraft.

** See Liberal Arts Math requirement.

LIBERAL ARTS:**WOMEN'S STUDIES OPTION**

The Women's Studies Option of the Liberal Arts Program offers an opportunity to understand many familiar subjects from the perspective of women. The Women's Studies Option prepares you with all the traditional skills of a liberal arts education: practice in critical reading and thinking, practice in clear, well-organized writing, and background in a number of academic disciplines. Women's Studies students may transfer to four-year liberal arts degree programs in any liberal arts major. Many four-year colleges also offer degrees in Women's Studies. Students who enter the work world after their Associates degree will find themselves well prepared to apply their skills in writing, research and thinking to a variety of jobs.

Part-time Option: Students who prefer to take fewer courses in a semester may study on a part-time basis and complete the program in a longer period of time.

Curriculum: The Women's Studies Option of the Liberal Arts degree program includes the following seven courses, distributed among three departments in two Divisions (Humanities and Social Sciences). Complete descriptions of these courses are in the College Catalog.

EN8882	Literature: Women's Lives: Recorded and Imagined
EN8883	Women in Literature & Life
EN8884	Literature: 20th Century Women in Film
GV3320	Women and the Law
HI9917	The Family in History
HI9962	Women's History: Giving the Majority Its Past
SO3359	Women and Society

Not all of these courses will be offered every semester. Some may be offered in alternate years. Other new or experimental courses, appropriate to the option but not appearing in the catalog, may be offered. Students should consult their advisors about these Special Topics offerings each semester. Cooperative Education courses with approved placements and approval of the Women's Studies Option Coordinator may also be used to fulfill the option.

Each of the Women's Studies courses fulfills a requirement within the Liberal Arts degree.

LA Requirement in History/Government (6 credits): choose among GV3320 Women and the Law, HI9917 The Family in History, HI9962 Women's History: Giving the Majority Its Past.

LA Requirement in Literature (6 credits): choose among EN8882 Literature: Women's Lives—Recorded and Imagined, EN8883 Women in Literature & Life, EN8884 Literature: 20th Century Women in Film.

LA Requirement in Behavioral Science (6 credits): partially fulfilled by SO3359 Women and Society.

Any of these courses may also be used to complete the 18 credits of liberal arts electives in the Liberal Arts Degree program.

Completion of any six of these courses, or any five and one approved Special Topics course, will constitute the Women's Studies Option.

LIBERAL ARTS: WRITING OPTION

The Liberal Arts Option in Writing is designed to give students a solid grounding in a variety of writing skills, while providing opportunities for students to try out writing and other communications skills for particular purposes with various audiences. This option emphasizes building on existing skills, developing individual style, and exploring career applications of writing. It is an appropriate preparation for transfer to B.A. programs in English, writing, communications and other liberal arts majors; it may also prepare students for entry level jobs requiring excellent writing skills. Students not planning to transfer are urged to consider co-op as an elective to provide field experience in their chosen writing markets. 62 credit hours are required for graduation.

Admission Conditions: Students entering the Writing Option should have sufficient typing or word processing skills to produce a printed essay. Those who are unable to do so should plan to take an appropriate keyboarding, word processing or personal computer course, or to work independently in the computer labs on a word processing program. There is no prerequisite level of skill, but all courses in the option will require printed papers.

Curriculum: The Writing Option of the LA Degree requires the Liberal Arts Core Requirements in the following areas:

	Credits
EN4401 & EN4402 English Composition I and II	6
Mathematics†	6
Laboratory Sciences†	8

†(See requirements under LA Degree)

The following 3 required courses are the heart of the Writing Option:

EN4403	Advanced Composition	3
EN3121	Creative Writing	3
EN8011	Speech	3

*LA Requirement in Literature 6
Women's Literature, ethnic/minority literature or Non-Western literature are recommended.

*LA Requirement in History/Government 6
Courses with international or multi-cultural perspective are recommended.

*LA Requirement in Behavioral Science 6
Courses with international or multi-cultural perspective are recommended.

*One course in any one of these areas **must** be multicultural or international in perspective, or **must** involve women's, ethnic, minority or non-Western studies.

LA Requirement in Foreign Language/Philosophy/ Religion/Creative Arts 6

The following courses are strongly recommended to fulfill this requirement; they are chosen to emphasize variety in means of communication: FA7020 Introduction to Creative Arts; FA7024 Dance Composition; MU7110 Chorus I; TH7796 Acting; TH7785 Mime; TH7799 Rehearsal & Performance; two semesters of a foreign language

Electives 9

Besides any of the courses listed under LA requirements, the following courses are recommended for the necessary elective credits: EN3301 Journalism I; EN3333 Broadcast Reporting; EN4676 Technical Writing; EN8020 Interpersonal Communication; LN1001 Introduction to Language; CO4401 Cooperative Education I; a literature elective

NOTE: Writing courses offered as Special Topics or newly added to the permanent curriculum may also be accepted as electives for this degree option with the consent of the adviser. Not all of these courses will be offered every semester. Some may be offered in alternate years.

MEDICAL ASSISTANT CERTIFICATE

The certificate program in Medical Assistant prepares persons to work in a variety of settings. The medical assistant is a professional, multi-skilled person dedicated to assisting in all aspects of medical practice under the supervision of a physician. The medical assistant assists with patient care management, executes administrative and clinical procedures, and often performs managerial and supervisory functions. Competency in the field also requires that a medical assistant be able to communicate effectively, adhere to ethical and legal standards of medical practice, recognize and respond to emergencies, and demonstrate professional characteristics. The Medical Assistant program requires that all students be C.P.R. certified (Basic Life Support, Form "C") prior to beginning the practicum in the spring semester. This may be accomplished by: participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. 29 credit hours of work are required for the certificate. Prior to graduation, students must participate in, pass and produce a certifying card from a standard first aid course sanctioned by the American Red Cross. Students must earn a C or better in all MS prefix courses to graduate. **The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Committee on Accreditation for Medical Assistant Education.**

FIRST SEMESTER		CREDITS
PS1101	Introduction to Psychology	3
SC5503	Integrated Science I	3
MS1015	Fundamentals of Medical Assisting: Administrative	5
MS1002	Fundamentals of Medical Assisting I: Clinical	2
HS1010	Medical Terminology I	1
MS1005	Medical Transcription for Medical Assistants*	2
		<hr/> 16

SECOND SEMESTER		CREDITS
SC5504	Integrated Science II	3
MS2015	Seminar for Medical Assistants	1
MS2002	Fundamentals of Medical Assisting II: Clinical	2
MS2010	Basic Laboratory Procedures for Medical Assisting	2
MS2012	Medical Assisting Practicum	4
HS1011	Medical Terminology II	1
		<hr/> 13

* Keyboarding competency is a prerequisite for this course. See course description.

Student Liability Insurance: All medical assistant students are required to carry student liability insurance. The premium is to be paid in the fall of each year.

Health: Medical Assistant students are required to complete a health evaluation prior to acceptance into the program.

A personal interview with the program coordinator is required prior to acceptance into the program.

MEDICAL BILLING CERTIFICATE

The certificate program in Medical Billing is designed for persons interested in working in a medical billing setting of a clinic, medical insurance office, or billing department of other health facilities. Through the course of study, students will learn the terminology, record and forms management, medical insurance requirements, and billing procedures needed to effectively manage patient accounts. Upon successful completion, students will be qualified for positions in medical billing. Students may also transfer some courses in this certificate program toward the Health Information Technology associate degree program. 27 credit hours are required for the certificate.

FIRST SEMESTER		CREDITS
AC6600	Basic Business & Bookkeeping	3
SL6673	Word Processing I*	3
MR6605	Introduction to Medical Language I	3
SC5503	Integrated Science I	3
		<hr/> 12
SECOND SEMESTER		CREDITS
Part A		
MR6606	Introduction to Medical Language II	3
SC5504	Integrated Science II	3
MR7701	Coding & Classification for Medical Billing**	3
MR7702	Medical Billing Administration***	3
Part B		
MR7703	Medical Billing Internship†	3
		<hr/> 15

* Prerequisite: Skill in the Operation of a Typewriter and Formatting

** Co-requisite is SC5504 Integrated Science II

*** Co-requisite is MR7701 Coding and Classification For Medical Billing and SC5504 Integrated Science II

† Prerequisites: MR7701 Coding and Classification for Medical Billing and MR7702 Medical Billing Administration. Medical Billing Internship will begin in the semester following the completion of the prerequisite courses listed above.

MEDICAL EQUIPMENT MAINTENANCE & REPAIR TECHNOLOGY CERTIFICATE†

The one-year certificate program in Medical Equipment Maintenance and Repair Technology provides students with theoretical and practical hands-on training in the basic technical skills needed for entry-level jobs as technicians in the calibration and servicing areas of medical electronics and personal computers. Employment opportunities are in companies manufacturing medical electronics equipment, in area hospitals and in service companies that calibrate and repair medical electronics equipment. 29 credit hours of work are required for the certificate. Program Prerequisite: High School Diploma or equivalent (GED) and one year of high school algebra.

FIRST SEMESTER		CREDITS
	Math Elective*	3/4
ET6010	Introduction to Medical Electronics & Clinical Safety	1
CT6601	Fundamentals of Digital Logic	3
ET6603	Digital Logic Lab	1
ET6111	Introduction to Electric Circuits	4
BI5510	Human Biology	3
		15/16
SECOND SEMESTER		CREDITS
CT5501	Personal Computer Maintenance & Repair	3
ET6040	Medical Electronics Repair	3
ET6030	Medical Electronics Systems Operation	4
	Math Elective* OR Technical Elective**	3/4
		13/14

* Math Elective: Minimum requirement is MA5501 Intermediate Algebra in the first semester and MA5621 College Algebra & Trigonometry in the second semester or MA5621 College Algebra & Trigonometry in the first semester and a Technical Elective in the second semester.

** Technical Elective: CO4401 Cooperative Education I is highly recommended, but elective can include any offering from the Departments of Electronic Technology or Computer and Information Sciences. Student electing other than the Cooperative experience should obtain written approval from the Chairperson of the Electronic Technology Department.

† Student liability insurance is a requirement at a number of Cooperative Education sites. The premium is to be paid at the start of the semester.

MEDICAL INTERPRETER CERTIFICATE

The certificate program in Medical Interpreter is designed to provide bilingual students with an opportunity to develop the skills, knowledge, and attitudes necessary to work as entry-level professional medical interpreters in a wide range of health care settings. The program also provides for career exploration within the health care field. 28 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
MI1001	Medical Interpreting I	4
BI5510	Human Biology	3
SO1001	Multicultural Perspectives in Health Care I	3
HS1010	Medical Terminology I	1
		11
SECOND SEMESTER		CREDITS
MI2001	Medical Interpreting II	4
MI2010	Introduction to Practicum	2
SO2001	Multicultural Perspectives in Health Care II	3
HS1001	Medical Terminology II	1
		10
THIRD SEMESTER		CREDITS
MI3001	Medical Interpreting III	4
MI2012	Practicum I	3
		7

* Keyboarding rate of 30 WPM is required for admission; choose initial keyboarding course according to level of ability.

** Both Word Processing I and Word Processing II are required to complete this program.

MEDICAL TERMINOLOGY & TRANSCRIBING CERTIFICATE

The one-year certificate program in Medical Terminology & Transcribing is designed for persons interested in working in a hospital medical record department, physician's office, clinic, laboratory, neighborhood health center, medical insurance office or other allied health institution. The program is of special interest to persons with some previous office training who wish to enhance job opportunities. It is an excellent choice for someone wishing to specialize in order to work in a medical or paramedical setting. Homemakers interested in returning to the job market would find the flexible hours available in these jobs attractive. All courses in the program may be transferred to the Health Information Technology associate degree program. 24/25 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
	Keyboarding II OR Word Processing I*	3
MR6605	Introduction to Medical Language I	3
MR6661	Medical Transcription I	3
	Elective OR	
	Word Processing I**	3/4
		12/13
SECOND SEMESTER		CREDITS
	Liberal Arts Elective	3
MR6606	Introduction to Medical Language II	3
MR6662	Medical Transcription II	3
SL6674	Word Processing II**	3
		12

* Keyboarding rate of 30 WPM is required for admission; choose initial keyboarding course according to level of ability.

** Both Word Processing I and Word Processing II are required to complete this program.

OFFICE AUTOMATION CERTIFICATE

The Office Automation Certificate prepares you for immediate employment and promotion in today's exciting and rapidly changing computerized business environment. Using a hands on approach, this program provides you with intensive practice in the most popular DOS and Windows used in business today, as well as exposure to the increasingly prevalent networked office computing environment. You are also encouraged to explore areas of personal interest through elective course offerings. Career opportunities exist in almost all fields for those who have the state of the art computer skills offered by this program. 27 credit hours of work are required for the certificate.

FIRST SEMESTER		CREDITS
TW6640	Keyboarding I or equivalency test (First 8 weeks)	3
CT6630	Introduction to Personal Computers (Second 8 weeks)	3
SL6673	Word Processing I*	3
FI3600	Business Spreadsheet Applications** (Second 8 weeks)	3
	Elective ^{††} (15 weeks)	3
		15
SECOND SEMESTER		CREDITS
SL6674	Word Processing II***	3
BU4430	Business Software Integration [†]	3
	Business Elective	3
	Elective ^{††}	3
		12

* Prerequisite: Skill in the operation of a keyboard and formatting: TW6640 Keyboarding I or equivalent

** Formerly Computerized Business Applications

*** Prerequisite: Word Processing I

[†] Prerequisite: CT6630 Introduction to Personal Computers or permission of instructor and TW6640 or equivalency test.

^{††} Recommended electives: The following list of courses is a representative partial list of courses that can be applied toward this certificate. Students are urged to seek assistance from an advisor in selecting those courses which best meet their development needs and goals: AC6683 Computerized Accounting (Prerequisites: AC6610 Introductory Accounting I and AC6611 Introductory Accounting II), CT5501 Personal Computer Maintenance and Repair, CT6632 Personal Computer Applications (Prerequisite: CT6630 Introduction to Personal Computers or equivalent), CT7000 Introduction to Macintosh, FA7121 Macintosh Design, FA7122 Publication Design.

OFFICE TECHNOLOGY EXECUTIVE SECRETARIAL OPTION

The associate in science degree program in Office Technology - Executive Secretarial Option is designed to train students to assume high-level secretarial positions on the administrative and executive levels. The two-year curriculum offers a balanced program of academic and technical courses leading to specialization in the executive secretarial area. The college-educated secretary finds a wide variety of opportunities in every business and in every profession. Several courses will prepare students to seek gainful employment in the modern electronic office by providing opportunities for them to learn skills on several kinds of automated office equipment which integrates the advances of office technology. 60 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Keyboarding I, II*	3
MA5613	Math of Finance	3
SL6682	Business Communications	3
		15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
AC6611	Introductory Accounting II**	3
	Category I Elective***	3
BU4400	Introduction to Business	3
	Introduction to Sociology/Psychology	3
		15

THIRD SEMESTER		CREDITS
SH6601	Speedwriting I	3
SL6661	Office Administration	3
SL6673	Word Processing I	3
	Category II Elective****	3
	Category II Elective****	3
		15

FOURTH SEMESTER		CREDITS
SH6602	Speedwriting II	3
SK6653	Machine Transcription	3
SL6674	Word Processing II	3
	Category II Elective****	3
	Category I Elective***	3
		15

* Choose appropriate course after consultation with advisor.

** A grade of C or better in AC6610 Introductory Accounting I.

*** Category I Electives: SL6665 Essentials of Office Management, C04401 Cooperative Education, CT6630 Introduction to Personal Computers, FI3600 Business Spreadsheet Applications; BU4430 Business Software Integration.

**** Category II Electives must be selected among Humanities, Social Science, Natural Science.

OFFICE TECHNOLOGY: TRAVEL AND TOURISM OPTION

The associate in science degree program in Office Technology: Travel and Tourism Option has been designed as either a terminal or transfer program. The purpose of this program is to provide students with the information required for employment in travel agencies, corporate travel offices, and airline agencies. Training involves Sabre System. 60 credit hours of work are required for graduation.

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
AC6610	Introductory Accounting I	3
	Keyboarding I or II*	3
MA5613	Math of Finance	3
SL6682	Business Communications	3
		15

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
AC6611	Introductory Accounting II**	3
	Keyboarding II OR	
	Business Elective	3
BU4400	Introduction to Business	3
	Intro to Sociology/Psychology	3
		15

THIRD SEMESTER		CREDITS
TL1001	Introduction to Travel/Tourism Industry	3
TL1010	Reservation/Ticketing I	3
	Liberal Arts Elective***	3
	Liberal Arts Elective****	3
SL6661	Office Administration	3
		15

FOURTH SEMESTER		CREDITS
	Cooperative Education OR	
	Business Elective	3
TL1020	Reservation/Ticketing Field Experience	3
TL1015	International/Domestic Destinations	3
	Liberal Arts Elective****	3
SH6601	Speedwriting I	3
		15

* Choose appropriate course after consultation with advisor.

** Prerequisite: A grade of C or better in AC6610 Introductory Accounting I.

*** Introduction to Geography recommended.

**** Foreign language recommended.

NOTE: Partnership with Essex County Travel Services located at Northern Essex Community College, Room C-202. Live travel agency for student hands on applications.

PARALEGAL STUDIES

The associate in science degree program in Paralegal Studies combines a liberal arts foundation with a career concentration in the paralegal area. Students have an opportunity to explore the field of law and to gain knowledge and develop essential skills to perform a wide range of supportive legal functions. A total of 62 credits is required for graduation. **NOTE: All law-specialty courses are taught by experienced attorneys. This program is approved by the American Bar Association.**

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
CT6630	Introduction to Personal Computers* OR Math Elective**	3
PS/SO	Behavioral Science Elective	3
GV3300	Introduction to Law	3
LW6670	Legal Research and Writing	4
		16

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
	Humanities/Social Science Elective	3
GV3301	Constitutional Law	3
LW6661	Litigation	3
LW6653	Real Estate Law	3
		15

THIRD SEMESTER		CREDITS
GV3315	Civil Rights & Liberties	3
LW6664	Family Law	3
LW6666	Tort Law	3
LW6667	Computer Applications in the Law	3
	Math Elective**	3
		15

FOURTH SEMESTER		CREDITS
	Humanities Elective	3
LW6663	Corporate Law	3
LW6662	Wills, Estate & Trusts Law	3
CO4401	Cooperative Education (with 8-10 hours of Legal Seminars)	3
	Natural Science Elective	4
		16

* Students must demonstrate proficiency in Introduction to Personal Computers in order to receive a waiver and take a math elective.

** Any math (MA) course except MA0020 Basic Math, MA0030 Basic Algebra, MA5501 Intermediate Algebra, MA5613 Math of Finance

NOTE: Students must obtain a minimum grade of C in all law specialty courses (LW prefix) to meet Paralegal program graduation requirements. Credit for law specialty courses taken more than 6 years prior to completion of the Paralegal Studies program will not be awarded, unless the student's proficiency in the area can be demonstrated. To obtain NECC's program imprimatur, please consult this institution's graduation requirements. Students interested in transferring to a B.A. in Paralegal Studies, should consult with the receiving institution.

Program Admissions Procedure: Attendance at Paralegal Information Session, Letters of Reference, and a personal interview with curriculum coordinator/designate.

PARALEGAL STUDIES CERTIFICATE

The certificate program in Paralegal combines a liberal arts foundation with a career concentration in the paralegal area. It is designed for students who may have some previous college education and work experience in a legal setting. **NOTE: All law-specialty courses are taught by experienced attorneys. This program is approved by the American Bar Association.** A total of 61 college credits, with the following distribution are required: 36 credits of general education (liberal arts) in a minimum of four disciplines; 25 credits which must be taken at Northern Essex (see below):

REQUIRED COURSES		CREDITS
GV3300	Introduction to Law	3
GV3315	Civil Rights & Liberties	3
LW6670	Legal Research and Writing	4
LW6661	Litigation	3
		13

In addition, students must elect four of the following five specialty courses:

ELECTIVES		CREDITS
LW6663	Corporate Law	3
LW6662	Wills, Estates and Trusts	3
LW6653	Real Estate Law	3
LW6664	Family Law	3
LW6665	Taxation	3

Recommended course sequence:

FALL SEMESTER I	
GV3300	Introduction to Law
GV3315	Civil Rights and Liberties
SPRING SEMESTER I	
LW6670	Legal Research & Writing
SUMMER SEMESTER I	
LW6661	Litigation
FALL SEMESTER II	
LW6653	Real Estate Law
LW6666	Tort Law
SPRING SEMESTER II	
LW6664	Family Law
LW6663	Corporate Law
SUMMER SEMESTER II	
LW6662	Wills, Trusts & Estates

NOTE: Depending on students' expertise, Computer Application in the Law and Cooperative Education are highly recommended. See Program Coordinator.

PERSONAL COMPUTER CERTIFICATE

The certificate program in Personal Computer offers practical training in the basic skills necessary to operate a personal computer efficiently and effectively. Successful completion of the program prepares you for entry-level jobs in the wide variety of employment settings which utilize the personal computer as a basic working tool. This certificate program is also intended for individuals with previous college-level experience who wish to upgrade their skills in making use of the personal computer.

FIRST SEMESTER		CREDITS
CT6630	Introduction to Personal Computers	3
	Elective	3
	Elective or Keyboarding*	3
	Category I Elective**	3
		<hr/> 12

SECOND SEMESTER		CREDITS
CT6632	Personal Computer Applications	3
EN4401	English Composition I	3
	Category I Elective**	3
	Category II Elective***	3
		<hr/> 12

* Students must have a keyboarding skill of 25 words per minute or TW6640 Keyboarding I must be taken in the first semester.

** **Category I Elective:** Two courses must be selected in the same subject area such as accounting, real estate, law, banking, journalism, medical records, office technology, criminal justice, etc.

*** **Category II Elective:** Select one course from the following list: CT5501 Personal Computer Maintenance & Repair, CT6681 Advanced Data Base Management Software. Any advanced computerized course which will enhance the Category I electives selected. For example: students who selected Accounting as a Category I subject area would elect AC6683 Computerized Accounting as a Category II course.

Note: Developmental basic skills courses may not be counted as electives.

PRACTICAL NURSING CERTIFICATE

The ten-month certificate program in Practical Nursing is designed to provide the student with the theory and skills needed to function as a competent entry-level graduate practical nurse. **The curriculum conforms to the guidelines established by the Massachusetts Board of Registration in Nursing and is fully accredited by the National League for Nursing.** The Application for Registration as a Practical Nurse With Examination includes the following question - "Court Record: 'Have you ever been convicted by Court of Law? Yes ____ No ____ If "yes," please enclose explanation stating date, charge, disposition'." 44 credit hours of work are required for the certificate. The Practical Nursing course sequence is 40 weeks in length, exclusive of vacations, and is divided into two semesters and a summer session. **Program Prerequisite:** High school diploma or equivalent. **Admission Condition:** personal interview. **NOTE:** PS1101 Introduction to Psychology (3 credits) is a requirement. It must be completed prior to the Fall semester. It is a prerequisite for PS1210 Developmental Psychology I and PS1211 Developmental Psychology II.

FALL SEMESTER		CREDITS
PN0101	Practical Nursing I	10
SC5503	Integrated Science I	3
PS1210	Developmental Psychology I	3
		16
SPRING SEMESTER		CREDITS
PN0201	Practical Nursing II	10
SC5504	Integrated Science II	3
PS1211	Developmental Psychology II	3
		16
SUMMER SESSION		CREDITS
PN0301	Practical Nursing III	8
PN0310	Vocational Trends in Practical Nursing	1
		9

THE CURRICULUM

Sequence of Courses: The Practical Nursing curriculum has been structured in a special sequence. Students are required to follow this sequence of courses throughout the entire three semesters of the Practical Nursing program. Students are also required to complete successfully all courses prior to or during each semester before proceeding to the next semester. All prerequisite courses must be completed in the appropriate sequence. Any deviation from the planned schedule can be made only with written permission from the Practical Nursing Program Coordinator. It is the responsibility of the student to be knowledgeable regarding when courses are offered and plan accordingly.

Grading: The final grade in Practical Nursing courses is based on theory and on performance in the clinical setting. A failure in either area constitutes failure for the course. Students must maintain a "C" in Practical Nursing courses to proceed to the next semester. Graduation from the Practical Nursing Program is contingent on maintaining at least a grade of "C" in all Practical Nursing courses and a Quality Point Average (QPA) of 2.0.

Exams: Standardized National League for Nursing Examinations and Mosby's Assess Test are required as an integral aspect of the curriculum for graduation.

Travel: Students are responsible for their own transportation to and from clinical agencies. Selected clinical experiences may be offered during the evening hours. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Practical Nursing faculty. **Note:** On occasion, conferences may be scheduled at the school during clinical hours, requiring students to return to the school from the clinical agency.

Student Liability Insurance: All Practical Nursing students are required to carry student liability insurance. The premium is to be paid at registration in the Fall of each year.

Health: Nursing students are required to complete a health evaluation prior to final acceptance to the Practical Nursing program. Students desiring a career in Practical Nursing must be physically and emotionally capable of assuming responsibility for client care in the health care institution they are assigned to for clinical practice.

C.P.R. Certification: The Practical Nursing program requires that all students be C.P.R. Certified (Basic Life Support Level C or Health Care Provider) prior to clinical experience in a health care institution. Students must make every effort to become certified prior to admission to the Practical Nursing program, but certification must be obtained prior to the start of clinical practice. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. It is also expected that students maintain certification throughout the educational program in Practical Nursing.

RADIOLOGIC TECHNOLOGY

The associate in science degree program in Radiologic Technology closely integrates all of the technical content in the program and provides opportunities to put classroom-learned techniques to work under supervision in the clinical area. **This program is fully accredited by the American Medical Association's Committee on Allied Health Education and Accreditation, in collaboration with the Joint Review Committee on Education in Radiologic Technology.** You will be ready to take the national board examination sponsored by the American Registry of Radiologic Technologists when you graduate. The successful completion of this exam qualifies you to be employed as a Registered Radiologic Technologist. In order to progress in the program, a grade of "C" or better is required in each Radiologic Technology course. The Radiologic Technology program requires that all students be CPR Certified (Basic Life Support-Form C) prior to beginning RT6505 Radiologic Technology: An Introduction. This may be accomplished by participating in CPR instruction offered by the American Heart Association, the American Red Cross, local hospitals or other qualified agencies. It is also expected that students maintain certification throughout their educational program in Radiologic Technology. 70 credit hours of work are required for graduation. **Program prerequisites:** Two science courses (one must be in biology, anatomy and physiology, chemistry or physics); and Algebra I and II. The sequence of courses allows this program to be completed in two years (22 consecutive months) by full-time students. **Admission Condition:** The Program Coordinator (director) will assign each qualified applicant to a clinical affiliate hospital where, under the direction of that affiliate's clinical instructor, each of these applicants shall complete a supervised observation of radiologic procedures; and, be given a tour of the Radiology Department at the affiliate hospital in which it is anticipated that the applicant would complete their clinical practicum courses. Upon completion of the observation and tour, the clinical instructor shall complete an assessment of the applicant which shall be considered by the College in making the admission decision.

SUMMER SESSION*		CREDITS
RT6505	Radiologic Tech: An Introduction	3
		3

FIRST SEMESTER		CREDITS
EN4401	English Composition I	3
BI5519	Anatomy & Physiology I	4
PI6511	Radiologic Science I	3
RT6521	Radiologic Technology I	4
RT6515	Clinical Practicum I	2
		16

SECOND SEMESTER		CREDITS
EN4402	English Composition II	3
BI5520	Anatomy & Physiology II	4
PI6512	Radiologic Science II	3
RT6522	Radiologic Technology II	4
RT6525	Clinical Practicum II	2
	Humanities Requirement †	3
		19

SUMMER SESSION**		CREDITS
RT6523	Radiologic Internship	2
		2

THIRD SEMESTER		CREDITS
RT6531	Radiologic Technology III	3
RT6533	Advanced Radiographic Positioning	3
RT6535	Clinical Practicum III	3
BI5530	Fundamentals of Disease Process	3
	Behavioral Science Requirement ††	3
		15

FOURTH SEMESTER		CREDITS
RT6539	Special Radiologic Procedures	3
RT6541	Computers in Radiography	3
RT6549	Radiobiology	3
RT6545	Clinical Practicum IV	3
	Liberal Arts/Math Elective†††	3
		15

* Approximately four weeks from about August 1-31 of the summer prior to the first semester of work in this program, each student must complete RT6505 An Introduction to Radiologic Technology as a three-credit course which includes clinical practicum at affiliate hospitals.

** Ten consecutive weeks of continued clinical practicum at affiliate hospitals.

† Select one: Philosophy, Literature, or Introduction to Humanities

†† Select one: Introduction to Psychology, Adulthood and Aging, Introduction to Sociology, Psychosocial Aspects of Aging, Death and Dying

††† Students intending to transfer are strongly encouraged to elect an appropriate college level mathematics course.

Student Liability Insurance: All Radiologic Technology students are required to carry student liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Radiologic Technology program without malpractice insurance coverage.

Health: Radiologic Technology students are required to complete a health evaluation prior to final acceptance to the Radiologic Technology program. The college's Student Health Service will designate when this information is due at the college.

REGISTERED NURSING DAY/EVENING/12-MONTH OPTIONS

The associate in science degree program in Registered Nursing is fully accredited by the National League for Nursing. It is a comprehensive, demanding and rewarding program which requires a strong commitment from students to complete the course of study. 68 credit hours of work (34 nursing credits and 34 general education credits) are required for graduation. Students may complete the program in a 12-month, 2-year, or 2 1/2-year time frame. It is possible for students to fulfill the general education requirements in either the Day Division or the Division of Continuing Education Services. The Registered Nursing program requires that all students be C.P.R. Certified (Basic Life Support Level -C or Health Care Provider) prior to clinical experience in a health care institution. Students should make every effort to become certified prior to admission to the Registered Nursing Program, but certification must be obtained prior to the start of clinical practice. This may be accomplished by participating in C.P.R. instruction offered by the American Heart Association, the American Red Cross or local hospitals. Students are also expected to maintain certification throughout their educational program in Registered Nursing. Graduates are prepared to write the State Board Examination for licensure as a Registered Nurse. (The Application for Registration as a Professional Nurse With Examination includes the following question - "Court Record: Have you ever been convicted by Court of Law? Yes ____ No _____. If "yes," please enclose explanation stating date, charge, disposition'.")

Program Prerequisites: A high school diploma or equivalency certificate (GED) is required for admission to the program. 4 years of high school English; 2 years of science (one must be a laboratory course in chemistry); 2 years of mathematics (at least one year of algebra). Students who have completed Anatomy and Physiology I and II (at the college level) with a minimum grade of "C" shall not be required to complete the high school chemistry prerequisite as consideration for acceptance into the Registered Nurse Program.

THE CURRICULUM

Sequence of Courses: Any deviation from the planned schedule can be made only with written permission from the Director of the Registered Nursing Program. It is the responsibility of the student to be knowledgeable regarding the sequence of courses and to plan their schedule accordingly.

Grading: The final grade in a Nursing course is based on classroom theory and clinical performance. A failure in either area constitutes failure for the course. Students must maintain a "C" in Nursing courses to proceed to the next semester. Graduation from the Registered Nursing program is contingent on maintaining at least a grade of "C" in all Nursing courses and a QPA (Quality Point Average) of 2.0.

Travel: Students are responsible for their own transportation to and from clinical agencies. Clinical experience is scheduled weekly and may include day and evening clinical experiences. Students must be prepared for these alternately scheduled hours. Students may request experience in a specific clinical agency; however, final decision regarding the placement of students rests with the Nursing faculty. **Note:** On occasion, conferences may be scheduled at the college during clinical hours, requiring students to return to the college from the clinical agency.

Student Professional Liability Insurance: All Registered Nursing students are required to hold student professional liability insurance. The premium is to be paid at registration in the Fall of each year.

Health: Registered Nursing students are required to complete a health evaluation as a condition of final acceptance to the Registered Nursing program. Students desiring a career in Registered Nursing must be physically and emotionally capable of assuming responsibility for client care in health care institutions.

Standardized Achievement Exams: Mosby's Assess Test examination is required as an integral aspect of the curriculum for graduation. The test is designed to assist students to evaluate their preparation for the licensing examination.

Advanced Placement: The Registered Nursing Program provides advanced placement opportunity through the college's Credit for Life Learning policy. Opportunity is provided for applicants with previous nursing education and experience to apply for advanced placement in the Registered Nurse Program.

Note: The following curriculum plans demonstrate the program structure for the 2-year, 2-1/2-year and 12-month program. Many of our students design three- to five-year plans or accelerate their progress by attending summer and/or evening classes. For more information, see an advisor.

**REGISTERED NURSING CURRICULUM
DAY OPTION †(TOTAL 68 CREDITS)**

FALL SEMESTER		CREDITS
NS6603	Nursing I	8
BI5519	Anatomy & Physiology I	4
EN4401	English Composition I	3
PS1101	Introduction to Psychology	3
		18

Prerequisite: Acceptance into the Registered Nurse Program.

SPRING SEMESTER		CREDITS
NS6604	Nursing II	8
BI5520	Anatomy & Physiology II	4
EN4402	English Composition II	3
PS1210	Developmental Psychology I	3
		18

Prerequisites: NS6603 Nursing I must be completed with a grade of C or better to continue to NS6604 Nursing II and prior completion of concurrent first semester courses.

FALL SEMESTER		CREDITS
NS6653	Nursing III	8
SO3321	Introduction to Sociology	3
BI5553	Microbiology	4
PS1211	Developmental Psychology II	3
		18

Prerequisites: NS6604 Nursing II must be completed with a grade of C or better to continue to NS6653 Nursing III and prior completion of concurrent second semester courses.

SPRING SEMESTER		CREDITS
NS6654	Nursing IV	10
	Humanities Elective*	3
CT3301	Computer Literacy for Health Professionals	1
		14

Prerequisites: NS6653 Nursing III must be completed with a grade of "C" or better and prior completion of concurrent third semester courses. NS6654 Nursing IV must be completed with a grade of C or better to graduate.

* Humanities elective to be chosen from courses offered by the Departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.

† Students are expected to follow the planned curriculum sequence in order to be successful in the Registered Nurse Program.

**REGISTERED NURSING CURRICULUM
12-MONTH OPTION†(TOTAL 68 CREDITS)**

The 12-month option of the Registered Nursing program is an intensive accelerated opportunity for applicants with previous nursing education and experience to advance his/her career. Eight credits for previous nursing education are granted to those who successfully complete the college's Credit for Life Learning Process for Nursing I. **Program Prerequisites:** The general prerequisites for the Registered Nursing program plus BI5519 Anatomy & Physiology I (4 cr.), BI5520 Anatomy & Physiology II (4 cr.), PS1210 Developmental Psychology I (3 cr.), PS1101 Introduction to Psychology (3 cr.), EN4401 English Composition I (3 cr.) must be completed with passing grades before matriculation plus satisfactory completion of the CLL Process.

SUMMER SESSION		CREDITS
NS6604	Nursing II	8
SO3321	Introduction to Sociology	3
EN4402	English Composition II	3
		14

Prerequisite: Acceptance into the 12-Month Option of the Registered Nurse Program.

FALL SEMESTER		CREDITS
NS6653	Nursing III	8
BI5553	Microbiology	4
PS1211	Developmental Psychology II	3
		15

Prerequisites: NS6604 Nursing II must be completed with a grade of C or better to continue to NS6653 Nursing III, and completion of concurrent semester courses.

SPRING SEMESTER		CREDITS
NS6654	Nursing IV	10
CT3301	Computer Literacy for Health Professionals	1
	Humanities Elective*	3
		14

Prerequisites: NS6653 Nursing III must be completed with a grade of C or better to continue to NS6654 Nursing IV and completion of concurrent semester courses. NS6654 Nursing IV must be completed with a grade of C or better to graduate.

* Humanities elective to be chosen from courses offered by the Departments of Creative Arts and/or English and/or Foreign Languages, Philosophy & Religion.

† Students are expected to follow the planned curriculum sequence in order to be successful in the Registered Nurse Program.

REGISTERED NURSING CURRICULUM EVENING OPTION † (TOTAL 68 CREDITS)

The Evening Option of the Registered Nursing program requires two and one half years. **Program Prerequisites:** The general prerequisites for the Registered Nursing program, and in addition, the following 3 credit courses must be completed prior to beginning nursing courses: EN4401 English Composition I, PS1101 Introduction to Psychology and PS1210 Developmental Psychology I. It is *strongly recommended* that BI5519 Anatomy & Physiology I, BI5520 Anatomy & Physiology II, and BI5553 Microbiology be *completed* prior to entering Nursing I.

FALL SEMESTER	CREDITS
NS6603 Nursing I	4
BI5519 Anatomy & Physiology I	4
EN4402 English Composition II	3
	<hr/> 11

SPRING SEMESTER	CREDITS
NS6603 Nursing I	4
BI5520 Anatomy & Physiology II	4
SO3321 Introduction to Sociology	3
	<hr/> 11

Prerequisites: Acceptance into the Registered Nurse Program.

SUMMER SESSION	CREDITS
NS6604 Nursing II	8
	<hr/> 8

Prerequisites: Nursing I must be completed with a grade of C or better to continue to NS6604 Nursing II and completion of concurrent semester courses.

FALL SEMESTER	CREDITS
NS6653 Nursing III	4
BI5553 Microbiology	4
PS1211 Developmental Psychology II	3
	<hr/> 11

SPRING SEMESTER	CREDITS
NS6653 Nursing III	4
Humanities Elective*	3
CT3301 Computer Literacy for Health Professionals	1
	<hr/> 8

Prerequisites: NS6604 Nursing II must be completed with a grade of C or better to continue to NS6653 Nursing III.

SUMMER SESSION	CREDITS
NS6654 Nursing IV	5
	<hr/> 5

FALL SEMESTER	CREDITS
NS6654 Nursing IV	5
	<hr/> 5

Prerequisites: NS6653 Nursing III must be completed with a grade of C or better to continue to NS6654 Nursing IV and completion of concurrent semester courses. NS6654 Nursing IV must be completed with a grade of C or better to graduate.

* Humanities elective to be chosen from courses offered by the departments of Creative Arts and/or English and/or Foreign Languages & Religion.

† Students are expected to follow the planned curriculum sequence in order to be successful in the Registered Nurse program.

RESPIRATORY CARE

The associate degree program in Respiratory Care incorporates all of the learning objectives of the entry level certificate program and goes beyond to present the theoretical knowledge and clinical procedural skills required for employment as an advanced level practitioner. The respiratory care practitioner specializes in the application of scientific knowledge and theory to practical clinical problems of respiratory care. They are qualified to assume primary responsibility for all respiratory care modalities and may be required to exercise considerable independent clinical judgment in the respiratory care of patients under the direct or indirect supervision of a physician. Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become a Registered Respiratory Therapist. **This program is fully accredited by the Joint Re-view Committee for Respiratory Therapy Education and Committee on Allied Health and Education of the American Medical Association.** In order to progress in the program, a grade of C or better is required in each Respiratory Care course. 69 credit hours are required for graduation. **Program Prerequisites:** Two science courses; successful passing of a basic algebra assessment test and an interview with the coordinator.

FIRST SEMESTER	CREDITS
BI5519 Anatomy & Physiology I	4
EN4401 English Composition I	3
RS6614 Introduction to Respiratory Care	7
RS6615 Respiratory Practicum I	2
	<hr/> 16

SECOND SEMESTER	CREDITS
BI5520 Anatomy & Physiology II	4
RS6629 Respiratory Pharmacology	2
RS6624 Respiratory Procedures & Assessment	7
RS6625 Respiratory Practicum II	4
	<hr/> 17

THIRD SEMESTER	CREDITS
EN4402 English Composition II	3
BI5553 Microbiology	4
RS6644 Ventilator Management and Pulmonary Function Testing	7
RS6645 Respiratory Practicum III	4
	<hr/> 18

FOURTH SEMESTER	CREDITS
Humanities Elective OR Social Science Elective	3
RS6659 Respiratory Care Seminar	2
RS6654 Respiratory Intensive Care	6
RS6655 Respiratory Practicum IV	4
Elective	3
	<hr/> 18

Student Professional Liability Insurance: All Respiratory Care students are required to carry student professional liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Care program without this insurance coverage.

Health: Respiratory Care students are required to complete a health evaluation prior to final acceptance to the Respiratory program. The college's Student Health Service will designate when the information is due at the college.

RESPIRATORY CARE CERTIFICATE

The certificate program in Respiratory Care makes up the first three semesters of the associate degree program. The Respiratory Care certificate program prepares the student for an entry-level practitioner position by teaching the student fundamental knowledge, technical information and clinical skills necessary for employment in the respiratory care field. Certificate graduates will assume clinical responsibility for a variety of respiratory care procedures under the supervision of advanced level respiratory care practitioners and/or physicians. Graduates are prepared to sit for the examination given by the National Board for Respiratory Care to become Certified Respiratory Care Technicians. In order to progress in the program, a grade of C or better is required in each Respiratory Care course. 48 credit hours are required for the certificate. **Program Prerequisites:** Two science courses; successful passing of a basic algebra assessment test and an interview with the coordinator.

FIRST SEMESTER		CREDITS
BI5519	Anatomy & Physiology I	4
RS6614	Introduction to Respiratory Care	7
RS6615	Respiratory Practicum I	2
EN4401	English Composition I	3
		<hr/> 17

SECOND SEMESTER		CREDITS
BI5520	Anatomy & Physiology II	4
RS6629	Respiratory Pharmacology	2
RS6624	Respiratory Procedures & Assessment	7
RS6625	Respiratory Practicum II	4
		<hr/> 16

THIRD SEMESTER		CREDITS
RS6644	Ventilator Management and Pulmonary Function Testing	7
RS6645	Respiratory Practicum III	4
BI5553	Microbiology	4
		<hr/> 15

Student Professional Liability Insurance: All Respiratory Care students are required to carry student professional liability insurance. The premium is to be paid prior to the beginning of classes. Students may not participate in the Respiratory Care program without this insurance coverage.

Health: Respiratory Care students are required to complete a health evaluation prior to final acceptance to the Respiratory program. The college's Student Health Service will designate when the information is due at the college.

SIGN LANGUAGE INTERPRETER †

The associate in science degree program in Sign Language Interpreter is designed to provide students with a broad educational experience based on a balance and diversity of general education, American Sign Language (ASL) and interpreting courses. Students are provided the opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as entry-level professional interpreters. The program also provides for career exploration within the deaf community and the basic academic preparation for possible transfer to bachelor degree programs. 69 credit hours of work are required for graduation. **Program Prerequisites:** AL1001 Introductory ASL I with a 'C' or better or demonstrate comparable skills/knowledge; demonstrate sufficient skills/knowledge to enter English Composition I and Liberal Arts Math I (options exist for underprepared students).

FIRST SEMESTER		CREDITS
AL1003	American Sign Language I	4
IN1010	Introduction to the Deaf Community	3
EN4401	English Composition I	3
BI5515	Introductory Biology I*	4
PH1101	Introduction to Philosophy	3
		<hr/> 17

SECOND SEMESTER		CREDITS
AL2003	American Sign Language II	4
IN1030	Introduction to the Interpreting Field	3
IN1041	Introduction to Practicum	2
	Behavioral Science Requirement**	3
EN4402	English Composition II	3
BI5525	Introductory Biology II*	4
		<hr/> 19

THIRD SEMESTER		CREDITS
AL3003	American Sign Language III	4
IN2029	Interpreting	4
IN2039	Practicum I	3
MA5520	Liberal Arts Math I***	3
EN8011	Speech	3
		<hr/> 17

FOURTH SEMESTER		CREDITS
IN2033	Advanced Interpreting	4
IN2041	Practicum II	3
SO3361	Intro to Deaf Culture	3
GV3312	Introduction to Political Science	3
AL4003	American Sign Language IV	3
		<hr/> 16

* Or can be two sequential four-credit science courses (i.e., Anatomy & Physiology I and Anatomy & Physiology II).

** Cultural Anthropology or Introduction to Sociology.

*** Or College Algebra or higher.

† Personal interview with program coordinator is required prior to admission.

SIGN LANGUAGE INTERPRETER CERTIFICATE †

The certificate program in Sign Language Interpreter is designed to provide the students with an opportunity to develop an understanding of the profession of interpreting for deaf and hearing individuals and the knowledge, attitude and skills necessary to function as entry-level professional interpreters. The program also provides for career exploration within the deaf community. Credits earned in the certificate program may be applied toward associate degree requirements in Sign Language Interpreter. 40 credit hours of work are required for the certificate. **Program Prerequisite:** The certificate is available only to people who have 32 or more earned college/university liberal arts/general education credit hours including English Composition I; completing AL1001 Introductory ASL I with a 'C' or better or possess comparable skills/knowledge. **Note:** The following sequence of courses requires completion in two years by all students. For more information, see the coordinator.

FIRST SEMESTER		CREDITS
AL1003	American Sign Language I	4
IN1010	Introduction to the Deaf Community	<u>3</u>
		7

SECOND SEMESTER		CREDITS
AL2003	American Sign Language II	4
IN1030	Intro to the Interpreting Field	3
IN1041	Introduction to Practicum	<u>2</u>
		9

THIRD SEMESTER		CREDITS
AL3003	American Sign Language III	4
IN2029	Interpreting	4
IN2039	Practicum I	<u>3</u>
		11

FOURTH SEMESTER		CREDITS
IN2033	Advanced Interpreting	4
IN2041	Practicum II	3
SO3361	Intro to Deaf Culture	3
AL4003	American Sign Language IV	<u>3</u>
		13

† Personal interview with program coordinator is required prior to admission.

TOTAL QUALITY MANAGEMENT CERTIFICATE

The certificate in Total Quality Management (courses currently offered only in the evening) is designed as an intensive career program for students desiring specific training in Total Quality Management philosophies, strategies and tools. The program provides the skills necessary for managing or participating in a companywide program for workforce utilization, management of process/product/service quality, customer service, productivity and continuous improvement in a manufacturing or service environment. 18 credit hours are required for the certificate and may be transferred to the associate degree option in Business Management: Total Quality Management.

FIRST SEMESTER		CREDITS
MG6620	Introduction to Total Quality Management	3
MG6625	Planning for Total Quality Mgmt.	3
MG6633	Process Control & Improvement	<u>3</u>
		9

SECOND SEMESTER		CREDITS
MG6630	Management of Total Quality Systems	3
MG6635	Management of Product Design Elective*	3
		<u>3</u>
		9

* Elective (choose from the following): MG6666 Principles of Management, MG7701 Principles of Materials Management, MG7730 Just-In-Time Manufacturing, CT6630 Introduction to Personal Computers, MG7720 Production and Capacity Management, MG7706 Materials Requirements Planning and other related state of the art special topics courses as offered and approved for this program.

TRAVEL AND TOURISM MANAGEMENT CERTIFICATE

The certificate program in Travel and Tourism Management provides the student with the knowledge and practical skills required to gain employment in the travel industry. 27 credit hours are required for the certificate.

FIRST SEMESTER		CREDITS
TL1001	Introduction to the Travel & Tourism Industry	3
GE9511	Introduction to Geography	3
AC6610	Introductory Accounting I	3
SL6682	Business Communications	3
TW6640	Keyboarding I OR	
TW6641	Keyboarding II*	3
		<hr/> 15
SECOND SEMESTER		CREDITS
TL1010	Reservations/Ticketing I	3
BU4400	Introduction to Business Elective**	3
CI4401	Career Internship OR Business Elective	3
		<hr/> 12

* Choose according to placement test.

** Recommended electives: MG6686 Small Business Management, FI3600 Business Spreadsheet Applications for Business, CT6630 Introduction to Personal Computers, MK6679 Advertising, MK6681 Salesmanship or a foreign language.

WINDOWS PROGRAMMING CERTIFICATE

The certificate program in Windows Programming is a career program. It also serves as a transfer option, since all but the Windows Programming courses are requirements for our Computer and Information Sciences transfer students. This certificate option is seen as a valuable addition for our CIS transfer students, but would also appeal to professionals in the field who want to return to school for training in the current technologies. 26 credit hours are required for the certificate.

COURSE REQUIREMENTS;

MA5614	Introduction to Discrete Mathematics	3
CT6632	Personal Computer Applications	3
CT6620	Programming I	4
CT6640	Programming II	4
CT6655	Programming III	4
CT6660	Windows Programming I	4
CT6662	Windows Programming II	4
		<hr/> 26

The overall time needed to complete the program would have to be flexible since many of the listed courses are prerequisites to another course in the program. A possible sequence could be:

FIRST SEMESTER		CREDITS
MA5514	Intro to Discrete Mathematics	3
CT6620	Programming I	4

SECOND SEMESTER		CREDITS
CT6632	Personal Computer Applications	3
CT6640	Programming II	4

THIRD SEMESTER		CREDITS
CT6655	Programming III	4
CT6660	Windows Programming I	4

FOURTH SEMESTER		CREDITS
CT6662	Windows Programming II	4

Course Descriptions

Course Scheduling

The Northern Essex Community College catalog generally makes no attempt to indicate when or for whom specific courses are scheduled. Not every course listed in this catalog is offered every year or every semester.

Special Topics Courses/ Directed Studies

In addition to the courses listed, courses of special nature may be made available for students. For further information concerning such courses, see **Special Topics Courses** under the Academic Standards section on page 62.

Math Chart

A math chart is included on page 126 to assist students in selecting math courses appropriate to their backgrounds in math and their current and future educational goals. The math chart is a guideline and subject to revision. For further assistance, see an advisor. **Note:** For all mathematics courses involving prerequisites, the student must earn a C or better in the pre-requisite course before attempting the next course in sequence.

Symbols

All courses are identified by a six-symbol description preceding the course title. The first two digits relate to the discipline and are letter symbols; the last four digits are numbers. The following list of symbols is provided as a guide to help each student locate a specific course description.

Accounting—AC	127
Aerospace Studies—AS	127
American Sign Language—AL	128
Banking—BK	129
Biology—BI	129
Business—BU	131
Chemistry—CH	131
Civil Technology—CE	132
Computer & Information Sciences—CT	133
Cooperative Education—CI/CO	135
Criminal Justice—CJ	136
Dental Assistant—DA	136
Early Childhood Education—CC	137
Earth Science—ES	139
Economics—EC	139

Education—ED	139
Electronics—ET	140
English/Literature—EN	141
Finance—FI	147
Fine Arts—FA	147
French—FR	150
Geography—GE	150
German—GM	150
Government—GV	151
Health Information Technology—MR	151
Health Services—HS	153
History—HI	153
Hotel & Restaurant Management—HR	155
Humanities—HU	155
Human Services—MH	156
Italian—IT	157
Keyboarding—TW	157
Language—LN	157
Law—LW	158
Management—MG	158
Marketing—MK	161
Mathematics—MA	161
Medical Assistant—MS	163
Medical Interpreter—MI	164
Music—MU	164
Nursing—NS	166
Office Administration—SL	166
Office Techniques—SK	167
Philosophy—PH	167
Physical/Outdoor Education & Leisure Studies—PE	167
Physics—PI	169
Practical Nursing—PN	170
Psychology—PS	170
Radiologic Technology—RT	171
Religion—RE	173
Respiratory Therapy—RS	173
Science—SC	174
Shorthand/Dictation/Transcription—SH	175
Sign Language Interpreter—IN	175
Sociology—SO	176
Spanish—SP	177
Theatre—TH	178
Travel and Tourism—TL	178

Electives

Electives are courses not specifically prescribed in a curriculum. The definitions listed below are meant to help students make elective choices for their respective programs. Students should consult their Academic Advisor before registering for elective courses.

Elective or Free Elective

Any **college level** course offered at Northern Essex Community College. **Note:** All developmental courses are excluded.

Business Elective

Any course offered by the Business Administration Department with the prefix AC, BU, EC, FI, HR, LW, MG, MK; any course offered by Office Technology Department with the prefix SL, SH, SK, TL, TW or any course offered by Health Information Technology Department with the prefix MR, HS.

Liberal Arts Elective

Any **college level** course offered by the following departments with the associated prefixes:

History and Government: GE, GV, HI

Behavioral Sciences: PS, SO

Foreign Language/Philosophy/Religion:

AL, FR, GM, IT, SP, PH, and RE

English: EN, except for English

Composition I & II and HU

Creative Arts: FA, MU, TH

Math: MA

Natural Science: BI, CH, ES, PI, SC

Humanities Electives

Any **college level** course which falls within the areas of communications, foreign language, philosophy/religion and creative arts as defined below.

Communications: Any course beginning with EN that is offered by the English Department **except** English Composition I and II.

Literature: Any course beginning with EN containing "Literature" in the title.

Creative Arts: Any course beginning with FA, MU, or TH.

Art: Any art course beginning with FA.

Dance: Any dance course beginning with FA.

Music: Any course beginning with MU.

Theatre: Any course beginning with TH.

Foreign Language: Any course beginning with AL, FR, GM, IT, or SP.

Philosophy/Religion: Any course beginning with PH or RE.

Social Science Elective: Any course offered by the Department of History & Government and/or the Department of Behavioral Sciences or any course with the prefix of GE, GV, HI, PS or SO.

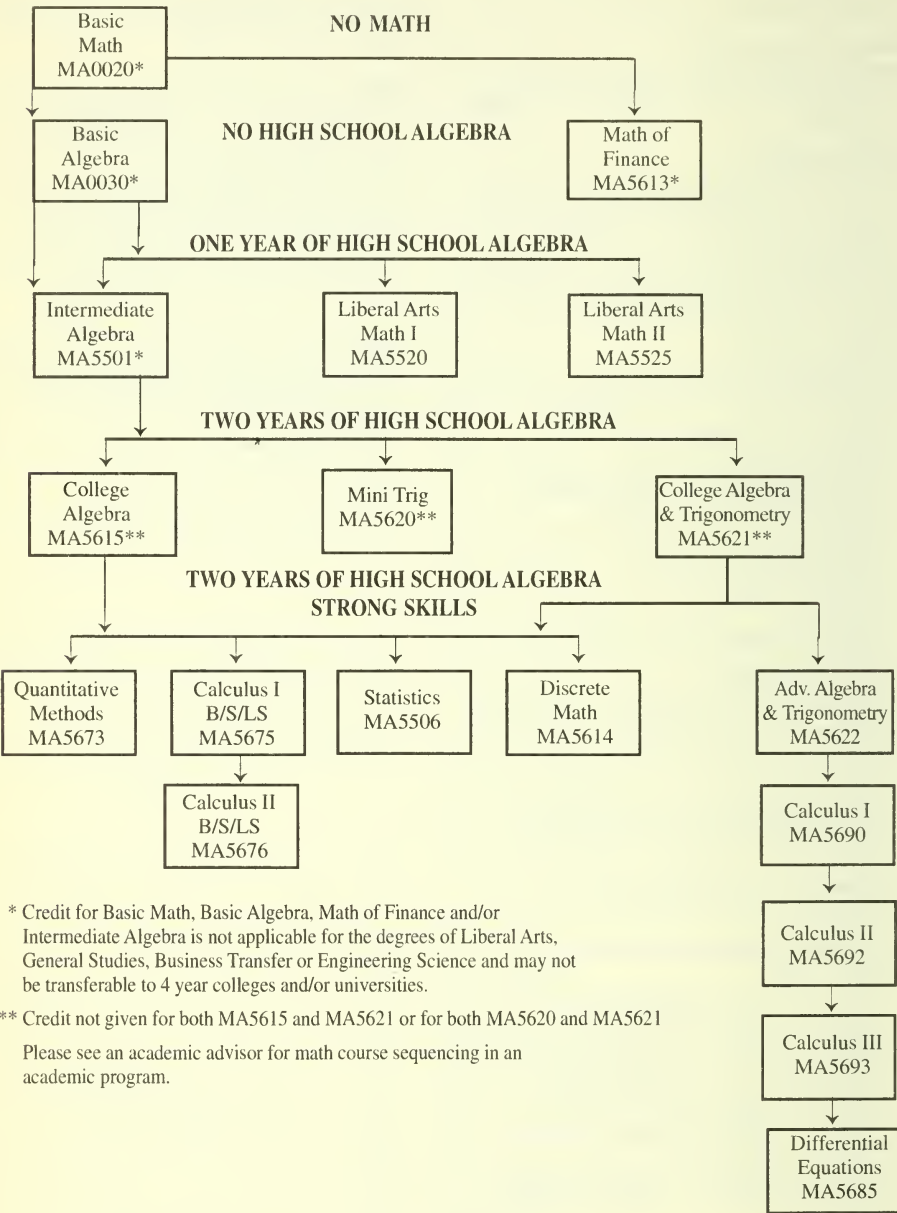
Behavioral Science: Any course offered by the Department of Behavioral Sciences or any course with the prefix of PS or SO.

History and Government: Any course offered by the Department of History and Government or any course with the prefix of GE, GV or HI.

Natural Science Elective: Any course offered by the Department of Natural Sciences or any course with the prefix of BI, CH, ES, PI, or SC. **Note:** Students need to be aware that there are 3 and 4 credit sciences. The elective/s chosen must meet the number of credits specified in the curriculum.

Math Elective: A math elective is satisfied by any math course with a course number higher than MA5501 unless otherwise stated in a program description.

Math Chart – The Math Chart represents the relationship and sequencing of the math courses offered at NECC. Your initial placement into a sequence of math courses is dependent upon your Math Assessment Test result.



ACCOUNTING

AC6600 Basic Business & Bookkeeping

A 1-semester course; 3 credit hours. Includes the study of business papers, bank checks, reconciliations, payroll accounts, the use of journals, general subsidiary ledger and the preparation of financial statements. As part of the course, the student will be required to complete a practice set. Also provides practical experience in applying the fundamentals of accounting. 3 class hours per week.

AC6610 Introductory Accounting

A 1-semester course; 3 credit hours. Basic concepts of accounting; uses of accounting data. Topics include the theory of debit and credit, use of journals and ledgers, analysis and recording of financial transactions, the accounting for both a service type business and a merchandising business, internal control, special journals and the control of cash transactions, accounts receivable, accounts payable, inventories and plant and equipment. 3 class hours per week.

AC6611 Introductory Accounting II

A 1-semester course; 3 credit hours. Continuation of AC6610. Emphasis is on accounting for payrolls, partnerships, corporations, corporate stock, retained earnings, dividends, bonds, present value theory, marketable securities and investments, non-current assets and liabilities, and Statement of Changes in Financial Position. 3 class hours per week. **Prerequisite:** AC6610 with a grade of C or better.

AC6620 Intermediate Accounting I

A 1-semester course; 3 credit hours. Detailed study of accounting theory/practice as it relates to financial accounting. Includes income statement and balance sheet presentation, cash, temporary investments, short term receivables, inventories and current liabilities. 3 class hours per week. **Prerequisite:** AC6611.

AC6621 Intermediate Accounting II

A 1-semester course; 3 credit hours. Continuation of AC6620. Includes tangible assets, intangible assets, long term liabilities, elements of corporate capital, investments and statement of changes in financial position. 3 class hours per week. **Prerequisite:** AC6620.

AC6671 Cost Accounting

A 1-semester course; 3 credit hours. Intensive study of cost methods; costing for materials, labor and factory overhead; job order process, direct costing and the use of standards. 3 class hours per week. **Prerequisite:** AC6611.

AC6682 Tax Accounting

A 1-semester course; 3 credit hours. An introduction to the principles of federal taxation with emphasis on history of income taxation, gross income, deductions, exemptions, accounting records, preparation and filing of tax returns. 3 class hours per week. **Prerequisite:** AC6611.

AC6683 Computerized Accounting Systems (CAS)

A 1-semester course; 3 credit hours. Designed to provide both reinforcement of Introductory Accounting I and II and hands on experience with a microcomputer and its role in business situations. System design theory and accounting theory will be used to show the flow of business information through data entry and financial preparation and reproduction. 3 class hours and 1 lab hour per week. **Prerequisite:** AC6611.

AEROSPACE STUDIES (Air Force ROTC)

Note: Aerospace Studies courses are offered at UMass/Lowell. 508-934-2252/2253

AS0010 Leadership Laboratory

A 1-semester course; 0 credit hours. The first two years of the Leadership Laboratory (LLAB) include a study of Air Force customs and courtesies, drill and ceremonies, issuing military commands, instructing, directing and evaluating the preceding skills, studying the environment of an Air Force officer and learning about areas of opportunity available to commissioned officers. Physical fitness is also emphasized. 1.75 class hours per week. **Note:** Concurrent registration in an AS10xx or AS20xx course required.

AS0020 Leadership Laboratory

A 1-semester course; 0 credit hours. Continuation of AS0010. 1.75 class hours per week.

AS1010 The Air Force Today

A 1-semester course; 1 credit hour. This course deals with the Air Force in the contemporary world through a study of the total force structure, strategic offensive and defensive forces, general purpose forces and aerospace support forces. 1 class hour per week. **Note:** Permission of instructor required.

AS1020 The Air Force Today

A 1-semester course; 1 credit hour. Continuation of AS1010. 1 class hour per week.

AS2010 The Development of Air Power

A 1-semester course; 1 credit hour. Study of air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; and a look at the evolution of air power concepts and doctrine. 1 class hour per week. **Note:** Permission of instructor required.

AS2020 The Development of Air Power

A 1-semester course; 1 credit hour. Continuation of AS2010. 1 class hour per week.

AMERICAN SIGN LANGUAGE

Note: All American Sign Language courses are considered to be humanities/foreign language courses. Students seeking to transfer are advised to consult the requirements of colleges to which they plan to transfer to determine whether they will be accepted either as humanities and/or foreign language courses for purposes of transfer.

AL1001 Intro. American Sign Language I

A 1-semester course; 3 credit hours. Designed to present basic grammatical rules in the use of American Sign Language (ASL). Basic ASL vocabulary, manual alphabet/numbers, visual-gestural communication and information related to Deaf Culture will also be covered. All lecture, laboratory activities and outside assignments are intended to develop basic competence in receptive and expressive use of ASL. The class will be taught primarily in ASL. Deaf and Hard of Hearing individuals have priority in securing seats in this course. 2 class hour and 2 lab hours per week.

AL1002 Intro. American Sign Language II

A 1-semester course; 3 credit hours. Designed to be a continuation of Introductory American Sign Language I. There will be exposure to complex grammatical rules in the use of American Sign Language (ASL). Additional ASL vocabulary development, finger-spelling/numbers, and information related to Deaf Culture will also be addressed. All lecture, laboratory activities, and outside assignments are intended to develop further competence in receptive and expressive use of ASL. Class will be taught primarily in ASL. Deaf and Hard of Hearing individuals have priority in securing seats in this course. 2 class hours and 2 lab hours per week. **Prerequisite:** Intro. American Sign Language I with a grade of C or better.

AL1003 American Sign Language I

A 1-semester course; 4 credit hours. Intensive, direct immersion approach to learning American Sign Language (ASL). Basic grammatical rules in the use of ASL, basic ASL vocabulary, manual alphabet/numbers, and visual-gestural communication are covered. Includes information about Deaf Culture, history of ASL and how it exists in society today. All lecture, laboratory activities and outside assignments are intended to develop basic competence in receptive and expressive use of ASL. The class will be taught primarily in ASL. 3 class hours and 3 lab hours per week. **Prerequisite:** AL1001 Introductory American Sign Language I with a "C" or better or demonstrate comparable skills/knowledge; completed or demonstrated sufficient skills/knowledge to enter EN4401 English Composition I and permission of the coordinator.

AL2003 American Sign Language II

A 1-semester course; 4 credit hours. Designed to be a continuation of American Sign Language I. Complex grammatical rules in the use of ASL, additional ASL vocabulary, fingerspelling/numbers, and visual-gestural communication will be covered. Includes information about Deaf Culture. All lecture, laboratory activities and outside assignments are intended to further develop receptive and expressive competence in the use of ASL. 3 class hours and 3 lab hours per week. **Prerequisite:** American Sign Language I with a grade of C or better and permission of the coordinator.

AL3003 American Sign Language III

A 1-semester course; 4 credit hours. Designed to be a continuation of American Sign Language II. Intended to refine and build American Sign Language (ASL) competence in and performance of most ASL grammatical features and ASL variations covered in previous courses. Receptive and expressive abilities enhanced through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age-related ASL renditions. Additional ASL vocabulary will be covered through text analysis. Includes information on Deaf Culture. All lecture, laboratory activities and outside assignments focus on systematically integrating all materials covered in this and all prior courses. This class will be taught primarily in ASL. 3 class hours and 3 lab hours per week. **Prerequisite:** American Sign Language II with a grade of C or better.

AL4003 American Sign Language IV

A 1-semester course; 3 credit hours. A continuation of American Sign Language III. Further refines and builds American Sign Language (ASL) competence in and performance of all ASL grammatical features as well as ASL variations addressed in preceding ASL courses. Receptive and expressive abilities are enhanced through exposure to selected stylistic, regional, social, ethnic, socially restricted, and age-related ASL renditions, as well as additional ASL vocabulary which will be addressed through text analysis. Includes information on Deaf Culture. Taught primarily in ASL. 2 class hours and 2 lab hours per week. **Prerequisites:** AL3003 American Sign Language III with a grade of C or better and permission of the coordinator.

BANKING

BK6601 Principles of Banking

A 1-semester course; 3 credit hours. Survey of banking's relationship to the total economy and the functional relationships of departments within the bank. Develops the framework for more specialized study of the banking institution. 3 class hours per week.

BK6611 Money and Banking

A 1-semester course; 3 credit hours. Practical aspects of money and banking; emphasis is placed on such problems as economic stabilization, types of spending, the role of gold, limitations of central bank control, government fiscal policy, balance of payments and foreign exchange showing their repercussions on the banking industry in affecting yield curves and the structuring of portfolios. 3 class hours per week.

BK6622 Real Estate Finance

A 1-semester course; 3 credit hours. Examination of mortgage credit in the U. S. and the structure of the mortgage market. An analysis of the management considerations in mortgage lending and portfolio management. 3 class hours per week.

BK6623 Consumer Lending

A 1-semester course; 3 credit hours. This course is designed to provide an overview of the consumer credit operation. It examines the role of consumer credit in overall banking operations and offers an improved understanding of the consumer credit function within a bank. 3 class hours per week.

BK6650 Financial Planning

A 1-semester course; 3 credit hours. Examines comprehensive financial planning, cash flow management, investments, tax liability, future family needs and estate planning. 3 class hours per week.

BK6651 Analyzing Financial Statements

A 1-semester course; 3 credit hours. Basic consideration in financial statement analysis, basic financial ratios, analysis of working capital, and other items. 3 class hours per week.

BK6652 Law and Banking Principles

A 1-semester course; 3 credit hours. This course is designed as an overview of the legal aspects of banking with special emphasis on the Uniform Commercial Code. Topics include up-to-date summaries of law pertaining to contracts, real estate, bankruptcy, and the legal implications of consumer lending. 3 class hours per week.

BK6653 Marketing for Bankers

A 1-semester course; 3 credit hours. A study of the concepts and philosophies of marketing, information research and target together with the marketing mix, product strategy, distribution strategy, advertising and sales promotion and pricing strategy. 3 class hours per week.

BK6654 Law and Banking Applications

A 1-semester course; 3 credit hours. This course is an introduction to laws pertaining to secured transactions, letters of credit and the bank collection process. Topics include check losses and legal issues related to processing checks, and secured transactions legal issues such as collateral, perfection and default. 3 class hours per week.

BK6666 Branch Banking Series

A 1-semester course; 3 credit hours. In this course, students will learn how to effectively use accepted management principles in the banking environment. The first part of the course is dedicated to retail management, the second to sales management and the third will emphasize financial performance of banks. 3 class hours per week.

BIOLOGY

BI5510 Human Biology

A 1-semester course; 3 credit hours. A basic study of the structure and functioning of the human body. Emphasis will be placed on the interrelationships among the systems. This course introduces the major biological principles through the study of the human body. 3 class hours per week.

BI5515 Introductory Biology I

A 1-semester course; 4 credit hours. A course dealing with the biological principles common to both plants and animals. These principles include the nature of chemical systems, cellular structure and functioning, genetics, ecology, and evolution. 3 class hours and 2 lab hours per week.

BI5519 Anatomy & Physiology I

A 1-semester course; 4 credit hours. The basic principles of biology are introduced. These are followed by an introduction to the study of the structure and functioning of the human body. Systems covered are: integumentary, skeletal, muscular and nervous. Emphasis will be placed on the interrelationships among the systems. Related topics such as diseases of the systems will be integrated where applicable. Laboratory work will include experiments, dissection, microscope work, and the study of charts and models. 3 class hours and 2 lab hours per week.

BI5520 Anatomy & Physiology II

A 1-semester course; 4 credit hours. A continuation of BI5519. Systems covered are: circulatory, endocrine, reproductive, urinary, digestive and respiratory. 3 class hours and 2 lab hours per week.

BI5525 Introductory Biology II

A 1-semester course; 4 credit hours. Continuation of BI5515 (Introductory Biology I) dealing with the evolution, structure, functioning, and taxonomy of the major groups of plants and animals. 3 class hours and 2 lab hours per week. **Prerequisite:** BI5515 Intro. Biology I or permission of instructor.

BI5530 Fundamentals of Disease Process

A 1-semester course; 3 credit hours. Topics include causes of disease, cellular injury, inflammatory processes, neoplasms, metabolic disorders, endocrine imbalances, disturbances in blood and body fluids, infectious diseases, physical and chemical injuries, hereditary diseases and congenital defects. A survey of the basic process of disease, types of medication, diagnostic measures and types of treatment will be discussed relating to the following systems: integumentary, musculoskeletal, nervous, cardiovascular, respiratory, gastrointestinal, genitourinary and organs of special sense (eye and ear). 3 class hours per week. **Prerequisite:** BI5519/BI5520 Anatomy and Physiology I and II or permission of instructor.

BI5540 Human Nutrition and Health

A 1-semester course; 3 credit hours. This course focuses on current eating practices and their effects on the overall health of the human body. Topics covered include the composition and function of the major food groups and vitamins, product label interpretation, and nutrition's role in disease and wellness. This course is specifically designed for the student interested in proper health maintenance. 3 class hours per week. (Note: This course may be taken alone as a 3 credit biology course OR in conjunction with BI5541 Human Nutrition and Health Laboratory, as a 4 credit biology course.)

BI5541 Human Nutrition/Health Laboratory

A 1-semester laboratory course; 1 credit hour. The student will apply those theories and principles of nutrition and health learned in the classroom. Topics to be investigated include nutrient content of the food groups, water quality testing, nutrient intake and calorie calculations, basic exercise and stress reduction techniques. 2 laboratory hours per week. **Corequisite:** BI5540 Human Nutrition and Health.

BI5553 Microbiology

A 1-semester course; 4 credit hours. The biology of bacteria, viruses, and microorganisms is studied. Laboratory work emphasizes the sterile technique. Immunology and Biotechnology are discussed. 3 class hours and 3 lab hours per week **Prerequisite:** One year of intro. biology at the college level or permission of the instructor.

BI6010 Seminar in Biotechnology

A 1-semester course; 1 credit hour. Discussion of topics related to employment in the biotechnology industry. Course involves a current review of scientific literature, guest and student presentation, process control and improvement techniques and coverage of job skills necessary for employment in the biotechnology industry. 1 class hour per week.

BI6015 Techniques in Biotechnology

A 1-semester course; 3 credit hours. A practical experience in a biotechnology laboratory. In this course the theory of techniques will be presented as well as providing a hands on learning experience. The focus will be on widely used techniques in the field such as DNA Technology, protein analysis, antibody techniques and ELISA (Enzyme Linked Immunosorbent Assay). 1 class hour and 4 lab hours per week. **Prerequisites:** CH5503 Intro. Chemistry I, BI5515 Intro. Biology I, BI5553 Microbiology or permission of the instructor.

BI6020 Internship in Biotechnology

A 1-semester course; 1 credit hour. Practical experience in a biotechnology lab. This experience is an opportunity to put into practice the theory and techniques acquired in the classroom. During this experience students are expected to keep a notebook on their experiences. Students develop lists of objectives to be accomplished during the work experience and will be evaluated by the worksite supervisor, the academic coordinator and the student at the end of the semester. On occasion off or onsite student conferences may be scheduled. A minimum of 47 hours of volunteer/unpaid work is required per semester. **Prerequisite:** Successful completion of the academic portion of the program and approval of the academic coordinator and the director of Co-Op Education.

BI6600 General Botany

A 1-semester course; 4 credit hours. Upper level biology course based on the study of plants. Lectures include gross and microscopic survey of plant anatomy from algae to the higher vascular plants noting the evolutionary trends, their economic relationship, and the fundamentals of physiology and morphology of the higher vascular plants. 3 class hours and 3 lab hours per week. **Prerequisite:** Intro. Biology I or permission of the instructor.

BI6605 General Zoology

A 1-semester course; 4 credit hours. An upper level biology course based on the study of animals. The lectures include a survey of major invertebrate and vertebrate animals with emphasis on their structure, adaptations, evolution and natural history. Laboratory work emphasizes identification and structural form of the major phyla of animals. 3 class hours and 3 lab hours per week. **Prerequisite:** Intro. Biology I or permission of instructor.

BUSINESS

BU1000 Business

Career Development Seminar

A 1-semester course; 1 credit hour. Designed to provide Field Experience students with the necessary skills to conduct a successful job search. Students will have the opportunity to analyze their interests and skills in relation to career types, develop a professional resume and participate in simulated interviews. Guest speakers, group discussions and video tapes will be emphasized. 1 class hour per week.

BU4400 Introduction to Business

A 1-semester course; 3 credit hours. This course will introduce students to the environment in which business is transacted in modern times as well as to major, functional areas of business. Its focus is upon timely issues and contemporary business problems. 3 class hours.

BU4420 International Business

A 1-semester course; 3 credit hours. An overview of international business with emphasis on how international business transactions differ from domestic. International business transactions, practices and environments influencing these activities will be explained and illuminated through extensive case studies, including focus on ISO9000 quality standards. 3 class hours.

BU4430 Business Software Integration

A 1-semester course; 3 credit hours. Using the personal computer and state of the art software, the student will learn how to integrate word processing spreadsheet and presentation graphics. Using integrated software presentation graphics, provide attractive usable documents and presentation materials for today's automated office. Lab work outside of class hours will be required to complete assignments. Restricted to Business students. **Prerequisite:** TW6640 Keyboarding I or equivalent and CT6630 Intro. to Personal Computers. 3 class hours per week.

BU4450 Introduction to Entrepreneurship

A 1-semester course; 3 credit hours. Introduction to the role of the entrepreneur and the disciplines and techniques necessary for success in starting a new business venture. Topics include entrepreneurial traits and instincts, setting personal goals, business planning, marketing, capitalization and financial planning; legal, tax, real estate and insurance considerations; small business assistance; government regulations and entrepreneurial career options. 3 class hours per week.

CHEMISTRY

CH4401 Chemistry in Your Life

A 1-semester course; 4 credit hours. This course will meet the four-credit natural science requirement of many associate degree programs. The course will be topic oriented. The students will study chemical topics including: nuclear reactions, energy from chemical reactions, water and its problems, chemistry of life, air pollution, drugs and medicines and other chemistry topics which are determined to be of use to the student. Some examples of the experiments would be: recycling aluminum from aluminum cans, dyeing material, determining the amount of vitamin C in orange juice, finding the acid and alkali content of some consumer products, and making soap and electroplating. 3 class hours and 2 lab hours per week.

CH5501 General Chemistry I

A 1-semester course; 4 credit hours. Deals with inorganic and physical chemistry. The study of the structure of atoms and the periodic nature of the elements. The examination of the relationship of energy and the elements to form compounds and the three physical states of matter will be investigated. 3 class hours and 3 lab hours per week. **Prerequisite:** One year of high school chemistry and one year of precollege math.

CH5502 General Chemistry II

A 1-semester course; 4 credit hours. Continuation of General Chemistry I, dealing with physical and inorganic chemistry. The three physical states of matter: solid, liquid and gases will be studied. The mechanical, thermal and electrical changes as demonstrated in solution theory, electrochemistry, chemical kinetics and chemical equilibrium will be examined in detail. Brief introduction to organic chemistry is given. 3 class hours and 3 lab hours per week. **Prerequisite:** CH5501.

CH5503 Introductory Chemistry I

A 1-semester course; 4 credit hours. The course covers the basic understanding of atomic structure of the elements and periodic table. The study of chemical bonding, nomenclature, chemical equations, formula calculations and stoichiometry is undertaken. 3 class hours and 2 lab hours per week. **Prerequisite:** A course in algebra.

CH5504 Introductory Chemistry II:

Inorganic Chemistry

A 1-semester course; 4 credits hours. Covers the study of solids, liquids, gases, solutions, acids, bases and neutralization. The application of physical chemical theory to inorganic chemistry. A brief review of organic chemistry is undertaken with special emphasis on how this aspect of chemistry relates to biological systems. 3 class hours and 2 lab hours per week. **Prerequisite:** CH5503.

CIVIL TECHNOLOGY

CE6600 Introductory Surveying

A 1-semester course; 4 credit hours. Designed to give a student an introduction to basic surveying techniques on a directed studies basis. Topics covered include operation of surveying instruments, steel taping, taking field notes, level note reductions and tape corrections. 3 class hours and 1 3-hour lab per week in conjunction with CE6601 Surveying 1. **Note:** To be taken only on advice of instructor.

CE6601 Surveying I

A 1-semester course; 4 credit hours. Designed to give the student proficiency in the use of surveying instruments and in performing necessary calculations. Horizontal, vertical and angular measurements are made and length, elevations, bearings and traverse computations with appropriate adjustments and corrections are made. Neat note taking and calculations are stressed. 3 class hours and 3 lab hours per week.

CE6602 Surveying II

A 1-semester course; 4 credit hours. Designed to give the student more proficiency in surveying measurements and calculations involved in horizontal and vertical curves, areas, stadia measurements, topographic surveys, photogrammetric surveys and land surveys. Use of modern instruments and calculation techniques are stressed. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 and CE6601 or equivalent experience.

CE6612 Drawing for Civil Technology

A 1-semester course; 1 credit hour. A course designed to give the student a good knowledge of some of the specialized drafting techniques required in the practice of civil technology. Topics covered are plan drawing, cross section drawing, profile drawing, inking techniques, printing techniques, etc. 3 lab hours per week. **Prerequisite:** CE6601.

CE6620 Overview of Civil Engineering

A 1-semester course; 3 credit hours. Designed to provide the student with a broad overview of the functions and practices of Civil Engineering as they apply to engineering and surveying firms. The general subject matters to be introduced include statics, strength of materials, transportation and sanitary engineering, soil mechanics, and structural analysis and design. Some topics discussed are to familiarize the student with a knowledge of the action of forces on structural systems, the relationship between externally applied forces and the internally induced stresses in various types of structural members and parts, the fundamental principles involved in the design of steel parts, and the fundamental principles involved in the design of steel and reinforced concrete structures including the basic analysis and design techniques specified by modern building codes. Other topics familiarize the

student with forms of modern transportation systems, including the advantages, disadvantages and peculiarities of each system, and the knowledge of the problems and solutions of the mechanics of soil, water supply, and sewerage. 3 class hours per week.

CE6625 Civil Engineering

Computing Applications

A 1-semester course; 4 credit hours. The course is designed to acquaint the student with a basic working knowledge of the utilization of computers to obtain solutions to the great quantities of calculations necessary in dealing with the problems encountered in Civil Engineering practice. Starting with how to use a computer without the study of specific computer programming techniques, this course offers the student a background to the introduction of a systems approach to typical Civil Engineering problems presently being studied, and their solution using computer applications from currently available software packages. 3 class hours and 3 lab hours per week.

Prerequisite: CE6601 Surveying I and CE6620 Overview of Civil Engineering.

CE6653 Strength of Materials

A 1-semester course; 4 credit hours. Designed to acquaint the student with the relationship between externally applied forces and the internally induced stresses in various types of structural members and parts, such as bolts, rivets, shafts, pressure tanks, beams and columns. Also covered is the relationship between the externally applied forces and the resulting deformations. Particular attention is given to beam bending, column loadings, tension in shafts, centroids and moments of inertia and combined stresses in structural elements. 3 class hours and 3 lab hours per week. **Prerequisite:** CE6651 or equivalent.

CE6672 Soil Mechanics

A 1-semester course; 4 credit hours. The course is designed to give the student a basic knowledge of the problems of soil. The course teaches the student to understand and evaluate the properties of soil materials. Lectures are reinforced by the use of a soil testing laboratory which enables the student to develop a thorough knowledge of soil testing techniques and proper use of experimental data. The course also deals with the topics of the interaction of soils and groundwater, consolidation of soil and settlement of structures, and the bearing capacity of soil under foundations. 3 class and 3 lab hours per week.

COMPUTER & INFORMATION SCIENCES

CT3301 Computer Literacy for Health Professionals

A 1-semester course; 1 credit hour. This introductory course will focus on learning how to use the personal computer as a tool in the work environment. The topics will include the basic operating system commands (DOS), shared computer systems, word processing and medical information systems software. 2 lab hours per week

CT3305 Computer Literacy Overview

A 1-semester course; 1 credit hour. This introductory course will give the student a broad overview on the ways in which the personal computer can be used as a tool in the work environment. The topics will include the basic operating system commands (DOS), word processing basics and a variety of software including tutorials. 2 lab hours per week.

CT5501 Personal Computer Maintenance & Repair

A 1-semester course; three credit hours. This introductory course will focus on learning how to setup, operate and maintain a personal computer. Students will gain practical hands-on experience in the following areas: installing software packages, expand computing power, preventative maintenance, diagnostic testing and peripheral interfacing. 2 lecture hours and 2 lab hours per week.

CT6601 Fundamentals of Digital Logic

A 1-semester course; 3 credit hours. The mechanics of automatic computation including number systems, digital codes, logic gates, Boolean algebra, Karnaugh map simplification, combinational logic, sequential logic, adders, counters shift registers, etc. 3 class hours per week.

CT6620 Programming I

A 1-semester course; 4 credit hours. An introduction to problem-solving methods and algorithm development for computer programming. Functional and design specification coding, testing and documentation are emphasized in the development of good programming techniques. Students should be aware that the level of abstract reasoning involved in this course mirrors that of a college level mathematics course. 3 class hours and 3 lab hours per week.

CT6626 Introduction to Information Processing with BASIC

A 1-semester course; 4 credit hours. An introductory course focusing on fundamental concepts of information processing and programming in the BASIC language. Computer hardware (input, output, and storage devices), computer history, and computer systems are

major topics. Considerable emphasis is placed on programming the computer as a means to understanding how a computer works. 3 class hours and 2 lab hours per week.

CT6630 Intro. to Personal Computers

A 1-semester course; 3 credit hours. This introductory course will focus on learning how to use a personal computer and the use of application software. Students will gain practical experience by using the personal computer for word processing, and the use of electronic spreadsheet, and data base management software. 2 class hours and 2 lab hours per week.

CT6632 Personal Computer Applications

A 1-semester course; 3 credit hours. This course will focus on using and managing a personal computer hard disk system. The disk operating systems (DOS), hard disk concepts, electronic spreadsheets with graphs, and database management software will be covered. Practical applications will be assigned using DOS, spreadsheets, database, and word-processing software. 2 class hours and 2 lab hours per week. **Prerequisite:** CT6630 Introduction to Personal Computers or equivalent.

CT6640 Programming II

A 1-semester course; 4 credit hours. A continuation of CT6620 emphasizing the development of data structures to organize information in solving problems with computers. Typical structures include arrays, stacks, queues, linked lists, and trees. Laboratory projects will give students the opportunity to implement these data structures. 3 class hours and 3 lab hours per week.

Prerequisite: CT6620 Programming I or equivalent.

CT6641 Introduction to Operating Systems

A 1-semester course; 4 credit hours. An introduction to computer operating systems. Operating systems functions and theory will be covered for a variety of computers from microcomputers to mainframes. Operating system examples and laboratory work will be frequently up-dated to reflect rapid changes in the field. Other topics include multiuser systems, system use and management. 3 class hours and 3 lab hours per week. **Prerequisite:** A programming language.

CT6642 PC Application Suites in Windows

A 1-semester course; 3 credit hours. This course will focus on application suites under the windows environment and the data file integration that is made possible between word processing, spreadsheet, database, and graphic files. Compound documents will be created that can include files from all the various application software. The efficient use of these data files for project report preparation and presentation will be the focus. 2 class hours and 2 lab hours per week. **Prerequisite:** CT6630 Introduction to Personal Computers or equivalent

CT6643 Computer Operations Experience

A 1-semester course; 4 credit hours. A hands on approach to computer operations giving practical experience with all aspects of computer operations from bootstrap to backup. Topics included are operations management, peripheral equipment, operating procedures, monitoring processes and ethical issues. Class time will be used for fundamentals; laboratory time will be individually scheduled work on a live computer system. 2 class hours and 4 lab hours per week. **Prerequisite:** CT6641 Operating Systems or equivalent experience. Enrollment limited.

CT6645 Introduction to Computer Networks

A 1-semester course; 3 credit hours. This course serves as an introduction to concepts in Computer Networks with some hands-on training in installing, configuring and managing a network. Different network topologies and transmission media will be covered as well as network operating system fundamentals. 2 class hours and 2 lab hours per week. **Prerequisite:** CT5501 Personal Computer Maintenance & Repair.

CT6649 Assembly Language Programming

A 1-semester course; 4 credit hours. A thorough coverage of an instruction set and addressing techniques. Basics of machine organization/architecture along with programming concepts will be stressed. Topics include binary and BCD math, input/output techniques, user defined procedures, and the use of programming tools particularly a debugger. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6620 or the successful completion of another computer language.

CT6651 Computer Systems Programming

A 1-semester course; 4 credit hours. Emphasizes programming for specific hardware configurations. Topics normally include interrupt programming, "terminate and stay resident" programming, low level keyboard, disk, mouse, and video I/O programming. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6649 Assembly Language Programming.

CT6655 Programming III

A 1-semester course; 4 credit hours. Continuation of CT6640 emphasizing file structures and design. This course covers the concepts, design considerations, and performance differences of file types from sequentially accessed files through relational databases. The file types are examined from the viewpoint of the operating system, the programmer, and system designer using a variety of standard design tools. 3 class hours and 2 lab hours per week. **Prerequisite:** CT6640 Programming II or equivalent.

CT6660 Windows Programming I

A 1-semester course; 4 credit hours. This course will introduce students to the fundamentals terms and

mechanics of programming for Windows. Topics covered will include text and the GDI, keyboard and mouse input, icons, cursors, and bitmaps. 3 class hours and 3 lab hours per week. **Prerequisites:** CT6620 Programming I and CT6640 Programming II.

CT6662 Windows Programming II

A 1-semester course; 4 credit hours. A continuation of CT0000. The topics included in this course will include file I/O for Windows custom controls, clipboard, DDE, MDI and OLE. Creation of dynamic link libraries will be included. 3 class hours and 3 lab hours per week. **Prerequisite:** CT0000 Windows Programming I.

CT6670 Introduction to CAD/CAM

A 1-semester course; 3 credit hours. Introduction to Computer Aided Drafting and Design Systems and Computer Aided Manufacturing. It will cover the role of computers, robots, automated production, and humanistic approaches in manufacturing. Students will gain an understanding of the difficulties and challenges that lie on the path toward integration of computers into the manufacturing environment. 3 class hours per week. 1-semester course; 3 credit hours.

CT6672 Computer Aided Drafting

A 1-semester course; 3 credit hours. This course will prepare students to operate Computer Aided Drafting and Design systems and understand the use of computer graphics in industry applications. Students will learn to use an interactive computer. They will store and retrieve drawings and related information on a magnetic disk and produce commercial quality copies using a computer driven plotter. 1 class hour and 4 lab hours per week. **Prerequisite:** CT6670 Introduction to CAD/CAM and ET6600 Engineering Drafting or ET6601 Engineering Design Graphics.

CT6681 Advanced Database Management Software

A 1-semester course; 4 credit hours. This course will focus on decision making using management information system software. Emphasis will be on Lotus 1-2-3, dBASE IV and/or other database management software. Software customizing techniques, macros, templates, data tables, program command files, and SQL commands will be covered. 3 class hours and 2 lab hours per week. **Prerequisite:** CT6632 Personal Computer Applications or equivalent.

CT6682 Engineering Computer Applications

A 1-semester course; 4 credit hours. A course for engineering and technology students that covers the principles of computer operation and Fortran programming techniques. Personal computer application software tools will also be used to solve technical problems. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 concurrently.

CT6683 Computer System Troubleshooting

A 1-semester course; 4 credit hours. Overview of the computer system including the architecture of a CPU and computer operations. A study is made of decoding and buffering circuits, memory interfacing and Input/Output interfacing both parallel and serial. These concepts are illustrated via the S-100 bus. Computer system fault analysis and troubleshooting techniques are also covered as are such tools as signature and logic analyzers. 3 class hours and 3 lab hours per week.

Prerequisite: ET6690 Microcomputers.

CT6684 C Programming Language

A 1-semester course; 4 credit hours. General study of the C Programming Language. This study will include application programs for systems, business, science, and technical areas. It will relate to real time applications by illustrating the integration of assembly language routines within the C coded programs. The study will also include treatment of how C handles data types and declarations such as: char, int, unsigned, long and float; primaries like constants, variables, addresses, functions and structures; expressions using both unary and binary operators; statements including both expressions and control types and the various preprocessing functions. A major programming project will be required. 3 class hours and 3 laboratory hours per week. **Prerequisite:** CT6649 Assembly Language Programming or ET6690 Microcomputers and a major programming language.

CT7000 Introduction to Macintosh

A 1-semester course; 3 credit hours. This introductory course will focus on learning how to use the Macintosh and application software. Students will learn word processing, spreadsheets, and database management software as well as the Macintosh operating system. 2 class and 2 lab hours per week.

COOPERATIVE EDUCATION**CI4401 Career Internship I**

A 1-semester course; 3 credit hours. Career Internship is designed to provide students with off-campus experiences related to their educational needs and/or career objectives, subject to the guidelines established by the student's academic department and the Office of Co-Op Education. Each student will be expected to participate in one or more workshops during the semester and write a final paper. Students develop a list of objectives to be accomplished during the semester and will be evaluated by the worksite supervisor, the academic coordinator and the student at the end of the semester. A minimum of 140 hours of volunteer/unpaid work is required per semester. **Prerequisite:** Prior approval of academic coordinator and the Director of Co-Op Education.

CI4402 Career Internship II

A 1-semester course; 3 credit hours. A second course designed to provide students with additional off campus experiences related to their educational needs and/or career objectives subject to the guidelines established by the student's academic department and Office of Co-Op Education. Each student will be expected to attend one or more workshops during the semester and write a final paper. Students develop a list of objectives to be accomplished during the semester and will be evaluated by the worksite coordinator, the academic coordinator and the student at the end of the semester. A minimum of 140 hours of volunteer/unpaid work is required per semester. Students are expected to increase their responsibilities over and above what was performed in either Co-Op Education I (CO4401) or Career Internship I (CI4401). **Prerequisite:** Prior approval of the academic coordinator and Director of Co-Op Education, and completion of CO4401 or CI4401.

CO4401 Cooperative Education I

A 1-semester course; 3 credit hours. Co-Op Education is an experiential approach designed to provide training for students seeking to enter or reenter a career field. Students gain practical experiences that are related to their academic program and/or career goals subject to guidelines established by the appropriate academic department and the Office of Co-Op Education. Each student will be expected to participate in one or more workshops during the semester and write a final paper. Students develop a list of objectives to be accomplished during the semester and will be evaluated by the worksite supervisor, the academic coordinator and the student at the end of the semester. A minimum of 180 hours of work experience is required per semester. **Prerequisite:** Prior approval of the Director of Co-Op Education and the academic coordinator responsible for the student's program.

CO4402 Cooperative Education II

A 1-semester course; 3 credit hours. A second course in Co-Op Education designed to provide students with additional off campus experiences related to their educational needs and career goals, subject to guidelines established by the appropriate academic department and the Office of Co-Op Education. Students will be expected to attend a series of workshops during the semester and write a final paper. Grade is based upon employer's academic evaluation of student growth, coordinator's evaluation of student performance and a self evaluation of work accomplished by the student. Students are expected to increase their responsibility over and above what was performed during CO4401 Co-Op Education I or CI4401 Career Internship I. A minimum of 180 hours of work experience is required per semester. **Prerequisite:** Co-Op Education I or Career Internship I and prior approval of the Director of Co-Op Education and the academic coordinator responsible for the student's program.

CRIMINAL JUSTICE

CJ3601 Concepts of Criminal Law

A 1-semester course; 3 credit hours. This course includes the classification of crime, definitions and elements of specific crimes, parties to a crime and defense of a crime, the substantive law of crimes, its historical development and philosophy. 3 class hours per week.

CJ3603 Introduction to Criminal Justice

A 1-semester course; 3 credit hours. Addresses the history, philosophy and function of the criminal justice system in America, and identifies the various subsystems and the role expectations of the system. Also provides an overview of crime, punishment and rehabilitation ethics, as well as the education and training for professionals in the system. 3 class hours per week.

CJ3607 Functions of Police in Modern Society

A 1-semester course; 3 credit hours. The functions of police in contemporary society will be analyzed in their historical, sociological, and political context. Particular emphasis will be placed upon the conflicting role expectations facing the police in a democracy. Topics included will be community policing, report writing, police discretion, corruption, leadership, professionalism and other related topics. 3 class hours per week.

CJ3608 Introduction to Corrections

A 1-semester course; 3 credit hours. An introduction and overview of the fundamental processes, trends and practices of correctional institutions. Dealing with, but not limited to, such concepts as institutional treatment, prisoner rights, community corrections, parole, pre-release centers, and government support of ex-offenders. 3 class hours per week.

CJ3610 Introduction to Security

A 1-semester course; 3 credit hours. This course explores various concepts related to the term "security." Emphasis is placed on devising a systems approach to security analysis and implementation. The functions as well as resources of protective services are identified and analyzed. Consideration is given to all aspects of personnel as it relates to security as well as an overview of planning techniques. 3 class hours per week.

CJ3667 Crisis Intervention in the Criminal Justice System

A 1-semester course; 3 credit hours. Application of crisis theory, management of interpersonal conflict and use of effective techniques of crisis intervention in Criminal Justice. Specific crisis situations frequently encountered are considered, including, but not limited to, family disputes, rape, child abuse, potential suicide, domestic abuse, hostage situations, and terrorism. 3 class hours per week.

CJ3670 Senior Seminar

A 1-semester course; 3 credit hours. Focuses upon special issues in criminal justice with a primary emphasis on the student's development of a "Senior Paper" which analyzes an agency in light of course and work experience to date. 3 class hours per week.

CJ3672 Field Practicum Experience

A 1-semester course; 3 credit hours. Course for preservice students. Planned program of observation in selected criminal justice agencies representing the major components of the system. The student will select an agency provided by the coordinator and assist in activities deemed appropriate by the agency. Students shall be required to maintain a journal as specified by the course instructor/field supervisor. 1 class hour and 8 practicum hours per week. **Prerequisite:** Full-time enrollment in the Criminal Justice Program. Students generally must be in their fourth semester.

DENTAL ASSISTANT

DA0100 Dental Assisting I

A 1-semester course; 5 credit hours. This course provides the student with an understanding of materials commonly used in the dental office, principles of dental jurisprudence and ethics, and an overview of the dental assistant's role in dental specialties such as oral surgery, orthodontics, endodontics and restorative dentistry. The student will perform laboratory procedures associated with chairside dental assisting. 4 class hours and 3 lab hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0105 Dental Clinical I

A 1-semester course; 4 credit hours. This course is designed to provide the student with the principles of four-handed dentistry, instrument identification and use, and aseptic techniques including the principles of microbiology and sterilization. 2 class hours and 6 lab hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0110 Oral Science I

A 1-semester course; 3 credit hours. This course provides the student with an understanding of the development, form and function of the oral cavity by examining oral anatomy, oral histology, oral embryology, and head and neck anatomy. 3 class hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0130 Dental Radiology I

A 1-semester course; 2 credit hours. This course is designed to examine the theoretical aspects of radiation production, safety, biological effects, paralleling exposure technique, darkroom processing, film mounting and radiographic interpretation. Proficiency in radiographic technique will be accomplished on a manikin. 1 class hour and 2 lab hours per week. **Prerequisite:** Acceptance into the Dental Assistant Program.

DA0200 Dental Assisting II

A 5-week course; 3 credit hours. Continuation of Dental Assisting I. The dental specialties periodontics, pediatric dentistry and prosthodontics will be studied as well as preventive dentistry, nutritional counseling, and dental office management. The student will construct dental laboratory appliances associated with chairside dental assisting. 6 class hours and 6 lab hours per week. **Prerequisite:** Dental Assisting I with a grade of C or better.

DA0205 Dental Clinical II

A 5-week course; 1 credit hour. Continuation of DA0105. Students will gain clinical experience in dietary counseling, preventive plaque control instructions, office management procedures, and assisting with periodontic, pediatric dentistry, and prosthodontic techniques. 6 lab hours per week. **Prerequisite:** Dental Clinical I with a grade of C or better.

DA0245 Oral Science II

A 5-week course; 1 credit hour. Designed to provide the student with an understanding of diseases of the oral cavity, dental emergencies, and pharmacological agents that are utilized in the dental office. 3 class hours per week. **Prerequisite:** Oral Science I with a grade of C or better.

DA0250 Dental Radiology II

A 5-week course; 1 credit hour. This course is a continuation of Dental Radiology I. The bisecting angle technique of exposing dental films will be studied. Proper radiographic technique will be developed on a manikin prior to exposing radiographs on patients. 6 lab hours per week. **Prerequisite:** Dental Radiology I with a grade of C or better.

DA0275 Dental Seminar

An 8-week course; 1 credit hour. Provides the student with an opportunity to analyze dental assisting procedures, patient care in the dental office and practicum experiences, and to hear scheduled guest lecturers from the dental community. 2 class hours per week. **Prerequisite:** A grade of C or better in all Dental Assistant courses.

DA0280 Dental Assisting Practicum

A 10-week course; 5 credit hours. This course requires a minimum of 300 hours of clinical experience in various dental offices where the student will perform chairside dental skills under the supervision of the dentists and their staff. Students will be assigned on a rotational basis with emphasis on general dentistry. Liaison with the students and the dental offices is maintained by the Coordinator of the Dental Assistant Program. 30 practicum hours per week for ten weeks. **Prerequisite:** A grade of C or better in all Dental Assistant courses prior to practicum assignment.

EARLY CHILDHOOD EDUCATION

Note: All course prefaced CC and ED0402 are restricted to students accepted and enrolled in the Early Childhood Education program. Other students may elect these courses only with the permission of the Early Childhood Education program coordinator.

CC2230 Early Childhood Education: Theory and Practice

A 1-semester course; 4 credit hours. Provides the student with an understanding of the child's experience in the school as it relates to his/her total development. It raises particular problems associated with curriculum planning and helps to develop criteria for evaluating a program for young children. The course will examine the historical development of early childhood education programs and services, the present prototypes and the universal elements contained in good programs. Defined areas of child behavior in varied educational settings will be observed and recorded. 3 class hours per week and 3 laboratory hours per week in varied educational settings.

CC2233 Planning Programs and Environments for Young Children

A 1-semester course; 3 credit hours. Examines the environments and programs planned for young children and helps students to develop the skills necessary to create environments which promote growth and provide for the needs of young children. Goals of the program, interest centers and the development of positive management techniques for working with children both individually and in groups are stressed. 3 class hours per week.

CC2236 Learning Environments for Infants and Toddlers

A 1-semester course; 3 credit hours. Focus on the unique requirements of caring for infants and toddlers in group settings. Addresses the criteria as advocated by the National Association for the Education of Young Children. Course content explores quality care for this age group, discusses growth and development of infants and toddlers, and helps participants develop concrete curriculum activities. Other topics addressed are appropriate equipment, safety issues, observation techniques and problem areas in infant/toddler relations. 3 class hours per week.

CC2240 Expressive Learning Activities in Early Childhood Curriculum

A 1-semester course; 3 credit hours. This course explores the role of creative expression as a learning tool in the social, emotional and cognitive development of the young child. Students will gain an understanding of how to plan and implement activities that integrate the arts of music, movement, poetry, and dramatic play into the early childhood curriculum. A variety of manipulative materials will be explored as emphasis will be placed on designing appropriate learning activities for the young child. This course will also introduce the student to the use of audio-visual media used in the early childhood classroom. 3 class hours per week.

CC2244 Enhancing Creativity in Early Childhood Curriculum

A 1-semester course; 3 credit hours. Designed to aid the teacher of young children in planning developmentally appropriate art activities in the early childhood curriculum. The course is structured so that students work individually in order to explore curriculum concepts and personal ideas through the use of art materials. Emphasis is placed on spontaneity, flexibility and invention in the ability to develop materials and activities appropriate to the age, developmental level and special needs of the young child. 3 class hours per week.

CC2250 Preschool Curriculum

A 1-semester course; 3 credit hours. Designed to aid the teacher of young children in planning a developmentally appropriate integrated curriculum for the early childhood classroom. It will look at the child's cognitive growth and development and how it is enhanced through math, social studies and language. Students will be exposed to designing learning environments which enhance the growth and development of the whole child and which respects individual differences in children's growth. 3 class hours per week.

CC2260 Math/Science for Early Childhood Curriculum

A 1-semester course; 3 credit hours. Students are introduced to the content and methods of teaching math and science in Early Childhood and are helped to develop skills in planning and presenting lessons in these areas and to develop appropriate methods for introducing these content areas into the curriculum. Emphasis will be given to concrete activities and materials which promote activities among children. 3 class hours per week.

CC2264 Seminar in Philosophy of Early Childhood Education

A 1-semester course; 3 credit hours. Students are given the opportunity to summarize and analyze their understanding of the theories and practices in early childhood education and the role of the professional in this field. An informal lecture/discussion format allows for analysis of practicum experience as well as for community resource guest lecturers and independent research. 3 class hours per week.

CC2312 Early Childhood Education Practicum I

A 1-semester course; 3 credit hours. Under the guidance and supervision of the cooperating teacher, skills and concepts of child growth, development and learning acquired in Introduction to Early Childhood Education and in Introduction to the Creative Experience will be applied by the student in selected practicum placements. 1 class hour and 8 practicum hours per week. **Prerequisite:** CC2230 or CC2201.

CC2353 Early Childhood Education Practicum II

A 1-semester course; 4 credit hours. The student will be actively involved in the varied activities which constitute the curriculum of early childhood education classrooms and educational programs. Under the supervision of a cooperating teacher, the student will become more familiar with the role and responsibilities of the professional in early childhood education settings. 1 class hour and 12 practicum hours per week. **Prerequisite:** CC2312.

CC2354 Early Childhood Education Practicum III

A 1-semester course; 4 credit hours. 16 hours of experience in the early childhood classroom or educational program allows the student both greater involvement in the program and an increased familiarity with the role and responsibilities of the early childhood education professional. 16 practicum hours per week. **Prerequisite:** CC2312, CC2353.

CC2450 Child Care Administration

A 1-semester course; 3 credit hours. Designed for the director or lead teacher who needs to enhance their administrative skills. Course content will include information related to the responsibilities of the child care director, leadership styles, financial management, personnel management, licensing regulations and a study of both state and national day care legislation. Particular attention will be focused on the role of the administrator in developing and implementing both evaluation and staff development strategies for child care staff, which serve to strengthen performance as well as administrative/staff relations. 3 class hours per week.

EARTH SCIENCE

ES5010 Earth Science

A 1-semester course; 3 credit hours. A survey of the earth sciences. This course will examine various earth systems and processes including the earth as a planet, the atmosphere and weather, the oceans, the solid earth and its minerals, and such processes as volcanism, weathering, glaciation, erosion and tectonics. This course should not be taken by students who have had Physical Geology or Meteorology, 3 class hours per week.

ES5501 Meteorology

A 1-semester course; 4 credit hours. A basic study of the elements which constitute weather: temperature, pressure, winds, humidity and precipitation. Further study includes weather data analysis and forecasting, and the relationships between weather and climate. 3 class hours and 2 lab hours per week.

ES5502 Physical Geology

A 1-semester course; 4 credit hours. Introduction to landforms and the processes of their formation: erosion by wind, water, ice, beaches and wave action. Further study is accomplished through the use of topographic maps. Additional topics include descriptions of basic rocks and minerals, volcanism, mountain building and crustal movement. 3 class hours and 2 lab hours per week.

ECONOMICS

EC3322 Micro Economics

A 1-semester course; 3 credit hours. Introduction to micro economics. This semester centers upon the functioning of individual markets and their effectiveness for resource allocation. Includes price and production theory, the distribution of income, and the theory of household behavior. 3 class hours per week.

EC3323 Macro Economics

A 1-semester course; 3 credit hours. Introduction to macro economic analysis and policy. Examination of the foundation and nature of economic principles as they apply to national output, money and banking and monetary and fiscal policy. Course also focuses on problems of employment, inflation and economic growth as illuminated by modern national income analysis. 3 class hours per week. **Prerequisite:** EC3322.

EC3652 Survey of Economics

A 1-semester course; 3 credit hours. A nontechnical survey of current economic problems. Background of economic concepts and terminology. Some focus on comparative economic systems. Not recommended for transfer students. 3 class hours per week.

EDUCATION

ED0402 Language and Reading Development in Early Childhood

A 1-semester course; 3 credit hours. An imaginative and creative approach to teaching readiness skills through literature for the preprimary child. Behavioral characteristics of young children and their implications relating to books will be the focus of the course. Picture books, storytelling, folk tales, fantasy, puppetry, dramakinetics, reading aloud, oral language development along with guidelines for assisting the child in becoming more ready for beginning reading instruction will be explored and demonstrated. This course is directed primarily to anyone who is or who seeks to work with the pre-school child. 3 class hours per week.

ED2310 Exploring Education I

A 1-semester course; 4 credit hours. This seminar is designed for students to explore the possibility of education, particularly teaching, as a career. Through course work and field experiences students will be exposed to the diversity of educational settings and develop an understanding of the interconnections among the different sectors of education. The historical, philosophical, social and methodological aspects of learning and teaching will be unifying themes throughout the course. 3 class hours and 6 field experience hours per week.

ED2311 Exploring Education II

A 1-semester course; 4 credit hours. This seminar is designed to investigate and analyze in depth selected contemporary educational issues from historical, philosophical and social perspectives. The impact of these issues on the learner, the educational system, the teaching profession and the classroom practitioner will be discussed. Through the field experience component, students will gain greater familiarity with a specific educational level at a variety of settings (i.e., traditional vs. innovative, urban vs. suburban). 3 class hours and 6 field experience hours per week.

ELECTRONICS

ET6010 Introduction to Medical Electronics and Clinical Safety

A 1-credit course which will include an overview of biomedical technology, the overview of clinical safety, principles of medical transducers and medical equipment applications. Safety standards prescribed by hospitals/clinics and medical offices will be discussed and observed. 1 class hour per week.

ET6030 Medical Electronics Systems Operation

A 1-semester course; 4 credit hours. Basic electronics essential to understanding of medical electronics equipment. Included are transducers, diodes, semiconductors, amplifiers, operational amplifiers, differential amplifiers and instrumentation amplifiers. 3 class hours and 3 lab hours per week. This course is not open to students who have completed ET6672 Electronics I.

ET6040 Medical Electronics Systems Troubleshooting

A 1-semester course; 3 credit hours. Includes hands-on laboratory training in troubleshooting techniques and repair approaches for common medical equipment used to monitor blood pressure, cardiac function, pulmonary function, EEG, etc. 2 class hours and 2 lab hours per week. **Prerequisite:** ET6010 and ET6030.

ET6600 Engineering Drafting

A 1-semester course; 3 credit hours. The application of the basic skills needed to make and read sketches and drawings. Students will use drafting instruments and will learn to perform the operations of the trade including the inspection of the completed work. The course will include lettering, sketching, and dimensioning with applications in sectioning and views of primary and secondary engineering drawings. 1 class hour and 4 lab hours per week.

ET6601 Engineering Design Graphics

A 1-semester course; 2 credit hours. Stresses communication by graphical or pictorial means. Lettering, graphics sketching, orthographic projection, auxiliary views, dimensioning and descriptive geometry principles are topics covered. Neatness is emphasized throughout. An introduction to menu driven CAD is included. 1 class hour and 2 lab hours per week.

ET6603 Digital Logic Laboratory

A 1-semester course; 1 credit hour. Proper interconnection of TTL integrated circuits. Experiments in digital logic circuits using gates, flipflops, counters, etc. 1 3-hour lab per week. **Prerequisite:** Fundamentals of Digital Logic to be taken concurrently or previously.

ET6611 Circuit Analysis I

A 1-semester course; 4 credit hours. Introduction to the analysis of electric circuits using DC sources. Applications of Kirchhoff's Voltage and Current Laws, superposition, loop analysis, nodal analysis and Thevenin's Theorem. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 to be taken concurrently or previously.

ET6612 Circuit Analysis II

A 1-semester course; 4 credit hours. Extension of the theorems developed in ET6611 as they apply to circuits excited by sinusoidal sources. Energy considerations, storage of energy, RMS calculations, determinant solutions, resonance and transformers. 3 class hours and 3 lab hours per week. **Prerequisite:** ET6611 and MA5621.

ET6645 Robotics

A 1-semester course; 4 credit hours. A course in robot fundamentals. History of development of modern robots and their applications; mechanical aspects of manipulators and end effectors; electrical, hydraulic and pneumatic drives; sensors; computer control; robot software; vision systems. Also includes social, psychological and economic effects of robotics. 2 lecture hours and 6 lab hours per week. **Prerequisite:** ET6690 Microcomputers, may be taken concurrently.

ET6650 Mechanics—Statics and Dynamics

A 1-semester course; 4 credit hours. This course is for engineering students not majoring in civil or mechanical engineering. Topics include: vectors, forces, moments, free-body diagrams and their application to force systems, stress and strain under various loading conditions, mechanical properties of materials, kinematics of particles and rigid bodies, applications of Newton's second law of motion including principles of work, kinetic energy, impulse and momentum, vibrations and electric analog. Methods of solution will include vector analysis and computer-aided analysis. 4 lecture hours per week. **Prerequisites:** PI5623 and MA5692 or equivalent. MA5692 may be taken concurrently.

ET6651 Engineering Mechanics I—Statics

A 1-semester course; 3 credit hours. Development of fundamental concepts of mechanics such as vectors, forces and moments. Detailed treatment of free body diagrams and their application to force systems. Laws of static equilibrium, friction forces, first and second moments, and problems involving various structures and machine parts. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. 3 class hours per week. **Prerequisite:** PI5623 and MA5692 or equivalent. MA5692 may be taken concurrently.

ET6652 Engineering Mechanics II—Dynamics

A 1-semester course; 3 credit hours. Basic laws of kinematics of particles and rigid bodies involving linear, angular, relative and absolute motion. Newton's Laws and their application to the kinematics of rigid bodies in translation, rotation and plane motion; and the principles of work, kinetic energy, impulse and momentum. Methods of solution will include vector analysis, matrix methods and computer-aided analysis. 3 class hours per week. **Prerequisite:** ET6651.

ET6661 Networks I

A 1-semester course; 5 credit hours. Introduction to general network solutions employing mathematical models and topology, the study of circuit analysis employing Kirchhoff's laws, Thevenin's Theorem, Norton's Theorem, superposition and maximum power theorems, is emphasized. 4 class hours and 4 lab hours per week. **Prerequisite:** MA5693 to be taken concurrently or previously.

ET6662 Networks II

A 1-semester course; 5 credit hours. Sinusoidal analysis of circuits employing phasor analysis. Sinusoidal steady state response found by nodal, mesh, superposition, source transformations. Thevenin's Theorem and phasor diagrams are explained. RMS values and average power and complex power is studied in detail. Major emphasis is placed on analysis using complex frequency (S-Plane). This would include frequency response of RL, RC, and RLC circuits (including resonance). The remainder of the course deals with two port network parameters and Fourier series analysis. 4 class hours and 3 lab hours per week. **Prerequisite:** ET6661, MA5685 concurrently.

ET6672 Electronics I

A 1-semester course; 5 credit hours. First course beginning with introductory semiconductor physics and semiconductor devices. Biasing and stability of devices and small signal models of same. Applications of semiconductors in rectifiers and amplifiers. Field effect transistors. 4 class hours and 1 3-hour lab per week. **Prerequisites:** ET6611, ET6612 concurrently, or ET6111.

ET6673 Electronics II

A 1-semester course; 5 credit hours. Analysis of the behavior of multistage amplifiers, power amplifiers, tuned circuit amplifiers, feedback amplifiers and oscillators. Integrated circuits, including differential and operational amplifiers and voltage regulators. 4 class hours and 1 3-hour lab per week. **Prerequisite:** ET6672.

ET6682: Digital Electronics

A 1-semester course; 4 credit hours. Study of traditional logic design as well as newer techniques utilizing MSI and LSI. Both combinational logic and sequential logic are covered including registers and counters. Also included an introduction to memory and programmed logic. 3 class hours and 1 3-hour lab per week. **Prerequisites:** ET6612 or ET6111, ET6672, CT6601.

ET6683 Digital Communications

A 1-semester course; 3 credit hours. A continuation of Digital Electronics with emphasis on digital communication techniques including modulation methods, modems and local area networks. 3 class hours per week. **Prerequisite:** ET6682 Digital Electronics.

ET6684 Electronic Communication Systems

A 1-semester course; 4 credit hours. Types and characteristics of electronic systems, such as amplitude modulation, frequency modulation and single-sideband. Receivers, transmitters and their system components including phase locked loops, tuned amplifiers, modulators and demodulators. 3 class hours and 1 3-hour lab per week. **Prerequisites:** ET6612, ET6672.

ET6690 Microcomputers

A 1-semester course; 4 credit hours. Introduction to microprocessors including basics of the CPU, timing and addressing instruction sets, assembly language programming, memory, input/output techniques, interfacing. 3 class hours and 3 lab hours per week. **Prerequisite:** CT6601.

ENGLISH**EN0211 ESL Core English I**

A 1-semester course; 8 credit hours. Introduction to American English for non-English-speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 12 contact hours per week. **Prerequisite:** ESL Oral Test.

EN0212 ESL Core English II

A 1-semester course; 8 credit hours. Second level structure course for non-native speakers of English. Includes mastery and integration of introductory grammar sequence and basic vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 12 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0213 ESL Core English III

A 1-semester course; 8 credit hours. Third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 12 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0214 ESL Core English IV

A 1-semester course; 8 credit hours. Fourth level structure course for non-native speakers of English. Includes introduction to clause/structure grammar and practice integrating core vocabulary into complex sentences. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 12 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0215 ESL Academic English I

A 1-semester course; 4 credit hours. Development of academic vocabulary and usage for college writing and speaking. For non-native speakers of English. Includes analysis of syntax and vocabulary in context, and techniques for writing about readings. **Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing and Oral Tests.

EN0216 ESL Academic English II

A 1-semester course; 4 credit hours. Integration of academic vocabulary and usage in college reading, writing, and speaking. Includes analysis of and writing about readings and study of derived word forms. **Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** Grammar/Writing Tests.

EN0221 ESL Reading I

A 1-semester course; 4 credit hours. Reading in English for beginners who are non-native speakers of English. Includes introduction to English graphemes and basic English phonics, and builds a reading vocabulary of 500 to 800 basic English words. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Reading Test.

EN0222 ESL Reading II

A 1-semester course; 4 credit hours. Second level reading course for non-native speakers of English. Includes comprehension of vocabulary in context, English phonics, dictionary skills, inflected forms, and individualized reading practice. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Reading Test.

EN0223 ESL Reading III

A 1-semester course; 4 credit hours. Third level reading course for non-native speakers of English. Includes study of prefixes and suffixes, dictionary skills, comprehension of vocabulary in context, and development of reading fluency through individualized reading assignments. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Reading Test.

EN0224 ESL Reading IV

A 1-semester course; 4 credit hours. Fourth level reading course for non-native speakers of English. Includes study of word formation, dictionary skills, development of academic study skills, comprehension of general vocabulary in context, and development of reading fluency through individualized assignments. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Reading Test.

EN0225 ESL Academic Reading

A 1-semester course; 4 credit hours. Highest level reading course for non-native speakers of English. Includes academic vocabulary in context, word analysis, dictionary skills, and development of reading fluency through individualized reading assignments. **Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Reading Test.

EN0231 ESL Communication I

A 1-semester course; 4 credit hours. Phonology course for beginners who are non-native speakers of English. Develops fundamental listening and pronunciation skills. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test.

EN0232 ESL Communication II

A 1-semester course; 4 credit hours. Second level communication course for non-native speakers of English. Develops basic communication skills in speaking and writing. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test and Writing Sample.

EN0233 ESL Communication III

A 1-semester course; 4 credit hours. Third level communication course for non-native speakers of English. Develops general conversation and writing skills using topical vocabulary. Writing skills include outlining and composition organization. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test and Writing Sample.

EN0234 ESL Communication IV

A 1-semester course; 4 credit hours. Fourth level communication course for non-native speakers of English. Develops academic listening, speaking, and writing skills using general academic vocabulary and situations. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test and Writing Sample.

EN0251 ESL Core English IA

A 1-semester course; 4 credit hours. Includes first half of Introduction to American English for non English speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test.

EN0252 ESL Core English IB

A 1-semester course; 4 credit hours. Includes second half of Introduction to American English for nonEnglish speakers. Develops base for further language training, including the ability to handle simple questions and answers within a limited range of basic topics. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Oral Test.

EN0253 ESL Core English IIA

A 1-semester course; 4 credit hours. First half of second level structure course for non-native speakers of English. Includes mastery of integration of introductory grammar sequence and basic vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0254 ESL Core English IIB

A 1-semester course; 4 credit hours. Second half of second level structure course for non-native speakers of English. Includes mastery and integration of introductory grammar sequence and basic vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0255 ESL Core English IIIA

A 1-semester course; 4 credit hours. First half of third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0256 ESL Core English IIIB

A 1-semester course; 4 credit hours. Second half of third level structure course for non-native speakers of English. Includes review and integration of major English tenses and development of core vocabulary. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0257 ESL Core English IVA

A 1-semester course; 4 credit hours. First half of fourth level structure course for non native speakers of English. Includes introduction to clause/structure grammar and practice integrating core vocabulary into complex sentences. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0258 ESL Core English IVB

A 1-semester course; 4 credit hours. Second half of fourth level structure course for non-native speakers of English. Includes introduction to clause/structure grammar and practice integrating core vocabulary into complex sentences. **This is a developmental course and does not carry graduation credit. It is not usually transferable. Since this is a mandated course students who do not meet the exit criteria will be required to repeat this course.** 6 contact hours per week. **Prerequisite:** ESL Grammar/Writing Test.

EN0400 Basic Reading

A 1-semester course; 3 credit hours. Designed to help students improve their basic reading skills. Through group and individualized instruction, the course helps the student develop the skills, habits and attitudes that will result in more effective reading. Topics include word analysis, vocabulary development, comprehension techniques and study skills. Instructional materials are at an appropriate level. Much attention is given to the development of individualized skills in the Reading Center and for this reason pre and post-diagnostic tests are given. **This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable. Since this is a mandated course, students who do not meet the exit criteria will be required to repeat this course.** Basic Reading must be followed by College Reading to complete the developmental reading sequence. 2 class hours and 2 lab hours per week.

EN0401 College Reading

A 1-semester course; 3 credit hours. This course is designed to meet a variety of more advanced reading and study skill needs, primarily the need to read college level materials more effectively. Students learn to recognize main ideas, to read an article or chapter and remember its key points, to take inclusive, meaningful notes, to read actively and critically, to explore memory techniques and to respond to our language with greater vocabulary depth. **This course is considered a developmental course and does not carry graduation credit. It is not usually transferable. Students who do not achieve a grade of C- or better will be required to repeat this course.** **Prerequisite:** Satisfactory completion of Basic Reading or referral through assessment testing. 3 class hours and 1 lab hour per week.

EN3101 Journalism I

A 1-semester course; 3 credit hours. The course provides training in the fundamentals of news gathering, evaluation, and the structure and writing of journalistic stories. Required: publication of at least six stories in the campus newspaper, The Observer. 3 class hours per week.

EN3102 Journalism II

A 1-semester course; 3 credit hours. Focus is on advanced reporting and writing techniques, including feature and editorial writing. Students are required to assist in the publication of The Observer and publish at least six in-depth articles in the campus newspaper. 3 class hours per week. **Prerequisite:** EN0101 or permission of the instructor.

EN3103 Journalism Practicum

A 1-semester course; 3 credit hours. Provides practical experience in professional journalism through internships at area newspapers, broadcasting stations or public relations departments of area institutions and agencies. A faculty member and representative of the employing agency coordinate and evaluate the student's work. 1 class hour and 6 practicum hours per week. **Prerequisite:** EN0102 and recommendation of faculty teaching courses in the Course Concentration in Journalism/Broadcasting.

EN3104 Copy Editing

A 1-semester course; 3 credit hours. Students will learn the principles and practice of news editing, including the following topics: copy editing, headline and outline writing, wire copy editing, and page make-up. An intensive review of English grammar and usage is included. This course is recommended for third semester students with a strong interest in print journalism. Open to students only by permission of the instructor. 3 class hours per week.

EN3121 Creative Writing

A 1-semester course; 3 credit hours. The theory and practice of all kinds of creative writing: poetry, fiction, drama, nonfiction narrative. Emphasis on students' own writing, group discussion, and readings of professional writers appropriate to students' writing. 3 class hours per week.

EN3333 Broadcast Reporting & Announcing

A 1-semester course; 3 credit hours. The student will learn through the study of current radio and television practices how to edit and write news items for the radio and TV news media; how to broadcast these items on radio and TV; how to use basic equipment associated with radio and TV news gathering and production; and how to evaluate current broadcasting practices. Students are encouraged, though not required, to have access to a portable tape recorder and stop watch. 3 class hours per week.

EN3334 Television Production I

A 1-semester course; 3 credit hours. The student will learn through the study of current television practices: how to write for, edit, produce and direct various complete television programs in a non-dramatic format; how to operate the equipment in the TV studio and control centers; and how to evaluate television

content. While the emphasis will be on the TV news program in which the student will learn how to work as an assignment editor and anchor person, the student will also learn the basic techniques of the extended interview, the panel show and the documentary. 2 lecture hours and 2 lab hours per week. Limited to 18 students. **Prerequisite:** EN3333 and permission of the instructor.

EN3335 Television Production II

A 1-semester course; 3 credit hours. Builds on basic skills learned in Television I by utilizing the crew system in the television studio and control room. Students are required to produce (plan, write, stage, and direct) one television program on a topic of their choice to demonstrate these competencies: ability to write a standard television script; ability to use the specialized language of television; ability to select and adapt audio and visual materials appropriate to the subject of the program. Students will be required to assist in the television production of at least two projects related to the college's performing arts (mime, dance, drama, music). 2 lecture hours and 2 lab hours per week. Limited to 18 students. **Prerequisite:** Successful completion of Television Production I.

EN4400 Basic Writing

A 1-semester course; 3 credit hours. Designed for students who lack the writing skills necessary to succeed in English Composition I. Emphasizes the composition of essays with further work on sentence and paragraph structure. Attention is also given to punctuation, grammar and spelling on an individualized basis. This course does not satisfy any part of the English Composition requirement for graduation. Students who fail the required writing assessment must take this course: other students may enroll on the basis of a faculty advisor's or counselor's referral, or permission of the instructor. Students for whom English is a second language are required to have successfully completed ESL Core English IV or have equivalent knowledge. **The instructor will require 1/2 hour/week of additional lab. In order to proceed to English Composition I, students must pass a writing assessment given as the final exam in this course. This is a mandatory developmental course that does not carry graduation credit and may not be transferable.** 2 class hours and 2 lab hours per week.

EN4401 English Composition I

A 1-semester course; 3 credit hours. Required course to develop clear, effective writing. Students will demonstrate their competence through a variety of writing assignments including essays and a research paper. 3 class hours per week. **Prerequisite:** Students entering English Composition I will be required to complete a writing sample which will be evaluated by a departmental committee. That committee will place students

in either English Composition I or a preparatory program more appropriate to their needs. **Note:** A grade of C- or better in English Composition I is required for entry into English Composition II.

EN4402 English Composition II

A 1-semester course; 3 credit hours. Required course which is a continuation of English Composition I with emphasis on longer analytic and argumentative papers and style. Readings and materials which will vary from section to section will be employed as the basis for a range of essays such as reports, evaluations, literary criticism, reviews, film criticism and research papers. 3 class hours per week. **Prerequisite:** Completion of EN4401 with a grade of C- or better.

EN4403 Advanced Composition

A 1-semester course; 3 credit hours. Seminar in writing beyond the freshman level designed for students seriously interested in writing. Types of both non-fiction and fiction will be examined as guides in the development of writing style. Students will work on longer writing projects of their own design. 3 class hours per week. **Prerequisite:** EN4401 and EN4402 or permission of instructor.

EN4676 Technical Writing

A 1-semester course; 3 credit hours. Provides exposure to and practice in various types of technical writing. It is appropriate for those considering technical communication as a career or those in technical fields who wish to communicate more effectively. Adapting style to audience and use of visual aids will be emphasized throughout. There will be practice in preparing technical definitions, descriptions, user instructions, proposals, written and oral reports. Whenever possible students will be expected to integrate their technical knowledge with writing projects in this course. 3 class hours per week. **Prerequisite:** EN4401 English Composition I.

EN4678 Spelling Laboratory

A 1-semester course; 1 credit hour. Individualized help for the poor speller. Students enrolling in this course will be given a diagnostic test to locate particular spelling problems: an individualized program involving intensive practice with spelling tapes, workbooks and computer programs will be set up. The credit earned in this course does not satisfy any part of the composition requirement for graduation. 2 lab hours per week held in the Writing Center. **Prerequisite:** Permission of the instructor.

EN8011 Speech

A 1-semester course; 3 credit hours. Instruction and practice in skills essential to effective oral communication. The course includes organization, presentation, and relationship between speaker and audience. 3 class hours per week.

EN8020 Interpersonal Communication

A 1-semester course; 3 credit hours. Designed to help students understand the theory and develop the skills necessary for effective communication. Explores communication axioms, verbal and nonverbal messages, message reception and sending, interpersonal listening and feedback, E-prime language, nondirective responding, paraphrasing, describing feelings, behaving assertively, managing conflict, and facilitating consensus in small groups. 3 class hours per week.

EN8401 Children's Literature

A 1-semester course; 3 credit hours. An introductory course in children's books. Considers the history of children's literature and contemporary authors. Study of criteria of good literature, children's interests and developmental stages related to books, various genre of children's literature, children's book awards, illustrators and authors, and reference sources. 3 class hours per week.

EN8801 The Bible As Literature

A 1-semester course; 3 credit hours. Designed to capture the literary content, qualities, and techniques of the Hebrew and Greek scriptures in translation, with particular emphasis on the Old Testament. Genres to be analyzed include the heroic narrative, epic, tragedy, lyric poetry, encomium and others. 3 class hours per week.

EN8851 American Literature I

A 1-semester course; 3 credit hours. A survey of such significant authors of the 17th, 18th, and 19th centuries as Bradstreet, Franklin, Irving, Hawthorne, Emerson, Thoreau, Melville, Whitman, Dickinson, Twain, Crane and James. 3 class hours per week.

EN8852 American Literature II

A 1-semester course; 3 credit hours. James, Hemingway, Fitzgerald, and Faulkner indicate the range of our prose. Porter, O'Connor, Ellison and Baldwin, the fact that it extends to women and blacks. Our century is rich in poetry as well thanks to Robinson, Frost, Williams, Pound and Ginsberg. A survey of twentieth-century literature, with varying selections among these authors and others. 3 class hours per week.

EN8853/EN8854 British Literature I and II

A 2-semester course; 3 credit hours per semester. A study of the major works of selected English poets, dramatists and prose writers, with their historical and literary background, directed through lectures and reading, with special exercises in interpretation and criticism. 3 class hours per week.

EN8856/EN8857 Literature: Major Writers I & II

Two 1-semester courses; 3 credit hours per semester. An examination of the principal works of one or two major writers of Classical, European, English, American, Latin American, Asian, or African literature. The author or authors examined will differ each semester. 3 class hours per week.

EN8861 Western Literature

A 1-semester course; 3 credit hours. Among the authors will be a preponderance of Greeks—Homer, Aeschylus, Sophocles, Euripides, Aristophanes and Plato because of the richness of ancient and classical literature in Greece. Romans such as Ovid and Virgil and anonymous medieval authors will also be read, for the pleasures they afford and the signs they give of how and why cultural artifacts are transmitted. 3 class hours per week.

EN8862 Western Literature II

A 1-semester course; 3 credit hours. Great books from the last thousand years, written in languages other than English and wonderfully readable in translation. Dante, Machiavelli, Moliere, Voltaire, Ibsen, Gogol, Dostoevsky, Chekhov, Kafka and Malraux suggest the variation in selection that will occur from year to year. 3 class hours per week.

EN8864 Literature: Shakespeare

A 1-semester course; 3 credit hours. Shakespeare provides a more comprehensive sense of human nature and potential than any of our other writers. Selected plays will be analyzed to understand first, each play's internal workings; and second, Shakespeare's rapidly evolving moral and artistic concerns. This course cultivates students' abilities to read the plays comfortably, to follow and enjoy a performance, and to write about the plays with understanding. 3 class hours per week.

EN8865 African American Literature

A 1-semester course; 3 credit hours. A study of the fiction, non-fiction, poetry and drama by African Americans that focuses on the African-American experience in America. Topics will vary from semester to semester, but may include leadership and slavery, the urban and rural experience, institutions such as the church and the law. African American music and film may also be included. 3 class hours per week.

EN8866 Literature of the Third World

A 1-semester course; 3 credit hours. An introduction to the diverse literature of South Asia, Africa, and Latin America and to the issues that are central to the Third World nations of these areas. Topics include international encounters between cultures, alternative perceptions of history and development, and the identity of the individual and a people in stable and changing cultures. Documentary as well as imaginative literature will be studied with supporting material from film, music and art. 3 class hours per week.

EN8867 Mythology and Literature

A 1-semester course; 3 credit hours. The study of the stories a society cannot forget. Using texts ranging from the Bible and Homer's epics to contemporary literary works, the course introduces mythological approaches to such subjects as heroism, place, time, family and human nature and discusses the relation-

ship between mythology and other more limited human studies, including religion, psychology, history and sociology. 3 class hours per week.

EN8881 Literature: The American Novel

A 1-semester course; 3 credit hours. Reading and discussion of significant novels of the nineteenth and twentieth centuries. Included among the authors considered are: Twain, Melville, Hawthorne, Crane, Dreiser, Henry James, Fitzgerald, Steinbeck, Anderson, Hemingway, Salinger, Faulkner, Flannery O'Connor, Cooper, Howell, Wharton, Cather. Analysis of form and philosophy. 3 class hours a week.

EN8882 Literature: Women's Lives Recorded and Imagined

A 1-semester course; 3 credit hours. A study of women's lives, primarily in women's words, through biography, autobiography, journals, letters and fiction. Includes, as written materials permit, women from all walks of life: famous, infamous and previously unknown, exploring both historic and imaginative limits set on women's selfhood. Students will develop critical perspectives on uses of literary sources and will apply what they learn to contemporary women's lives. 3 class hours per week.

EN8883 Women in Literature and Life

A 1-semester course; 3 credit hours. Study of literary and historical accounts of women in courtly society—late Middle Ages through early Renaissance—and in democratic society—1890 to 1970—for the purpose of tracing the cultural influence of an idea, the idea of courtly love, on literature and life. 3 class hours per week.

EN8884 Literature: Twentieth Century Women in Film

A 1-semester course; 3 credit hours. Offers the student an examination of the multiple views of woman as seen through the cinema. Looking at examples from literature and film, the student will be exposed to the varied attitudes toward self, beauty, socialization, exploitation and destiny of the twentieth-century woman. 2 class hours and 2 lab hours per week.

EN8885 Literature: The Art of the Movies

A 1-semester course; 3 credit hours. This course will attempt to foster critical taste in film. Students will explore the role of film in contemporary society by viewing and discussing documentaries, experimental films, impressionistic films, animated films and commercial films. Discussion and analysis will acquaint the student with the interrelationship of film technique and content. 2 class and 2 lab hours per week.

EN8891 Literature: Introduction to Poetry

A 1-semester course; 3 credit hours. Designed to acquaint the student with the various forms and scope of poetry. This course is to be an overview of the concept of poetry. 3 class hours per week.

EN8894 Literature: The Short Story

A 1-semester course; 3 credit hours. Stresses close critical reading and discussion of selected short stories written by nineteenth and twentieth century authors from around the world, with special emphasis on works by American writers. 3 class hours per week.

FINANCE

FI3600 Business Spreadsheet Applications

A 1-semester course; 3 credit hours. Students will learn data entry procedures and will learn to solve a series of realistic marketing, finance, accounting and production problems using spreadsheet software. 2 class hours and 2 lab hours per week.

FI3652 Business Finance

A 1-semester course; 3 credit hours. Principles and practices of business finance. The short and long term sources of funds, management of financial assets, capital requirements, alternative forms of financing and the capital market. Some use of case study method. 3 class hours per week. **Prerequisite:** AC6611

FI3655 Planning & Finance for Entrepreneurs

A 1-semester course; 3 credit hours. Students in this course will learn to develop a business and sell the plan to an investor. Case studies and discussion topics include business plans, start ups, valuation techniques, franchising, company purchasing techniques, finance planning, pro forma development and evaluation. Students will be divided up into teams of three to five and will be required to meet outside of regular class hours. 3 class hours per week. **Prerequisite:** A grade of C or better in BU4450 Introduction to Entrepreneurship.

FINE ARTS

FA7012 Introduction to the Creative Experience

A 1-semester course; 3 credit hours. Designed to introduce methods, materials and meaning of the arts to those who are involved in developmental programs—childhood to adulthood. It is the way to explore the world through nonverbal experiences which are personal to each one. Emphasis is placed on spontaneity, imagination, invention and flexibility of each student. 3 class hours per week.

FA7020 Introduction to the Creative Arts

A 1-semester course; 3 credit hours. An interdisciplinary approach to the arts with emphasis on both the experience of the arts and theory. The course is designed to give students an overview of all the arts by emphasizing the actual experience of dance, theatre, art and music. It is intended to give the student a strong sense of the enjoyment, excitement and pleasure that the arts can provide. 3 class hours per week.

FA7030 Drawing I

A 1-semester course; 3 credit hours. This course is an introduction to the problems, techniques, and materials of drawing. Each class project will focus on a different aspect of visual perception, composition, and artists' materials. 2 class hours and 2 lab hours per week.

FA7031 Drawing II

A 1-semester course; 3 credit hours. This course is a continuation of the problems, techniques and materials introduced in Drawing I. Students will continue exploring a variety of drawing materials. Emphasis, however, will be placed on understanding the problems inherent in translating what one sees in three dimensions to what one creates on the two dimensional surface. 2 class hours and 2 lab hours per week. **Prerequisite:** Drawing I.

FA7040 Painting I

A 1-semester course; 3 credit hours. This course is an introduction to the problems, techniques and materials of Painting. Each class project will focus on a different aspect of visual perception, composition and artists materials. 2 class hours and 2 lab hours per week.

FA7041 Painting II

A 1-semester course; 3 credit hours. This course is a continuation of Painting I. The emphasis will be on giving more complexity and subtlety to both the color and the composition in each project. The student will be encouraged to find personal solutions to the general problems presented. 2 class hours and 2 lab hours per week. **Prerequisite:** Painting I.

FA7045 Figure Drawing

A 1-semester course; 3 credit hours. This course offers the student the opportunity to draw from a live model. Class sessions will explore different approaches to figure drawing, covering a variety of techniques and concepts (gesture drawing, contour line drawing, form, light and shade, movement, etc.). Students will be encouraged to experiment with a variety of materials, and to enlarge the scale of their work as the semester progresses. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7030 Drawing I.

FA7051 Introductory Photography

A 1-semester course; 3 credit hours. A foundation course that covers basic camera operation, darkroom techniques, exposure, composition and aesthetics, and the use of color. Students will learn to develop and print their own black and white photographs in a laboratory setting. An adjustable 35mm camera is required. Students are expected to complete lab work. 3 class hours per week.

FA7053 Advanced Photography

A 1-semester course; 3 credit hours. Advanced techniques in camera operation, black and white process, composition, and the use of color. Emphasis is on photographic self-expression and communications. Students are expected to complete lab work as required. 3 class hours per week. **Prerequisite:** FA7051 Introductory Photography or permission of the instructor.

FA7055 News Photography

A 1-semester course; 1 credit hour. A course on the practical application of photojournalism. Concentration is on providing eye catching photographs for newspapers, magazines, newsletters and other print media. Participants will regularly take and print pictures on assignment for the campus newspaper The Observer. Students will meet with instructor once a week to receive photo assignments and critique previous assignments. 1 class hour per week. **Prerequisite:** Introduction to Photography (may be taken concurrently) or permission of the instructor.

FA7080 Color and Design

A 1-semester course; 3 credit hours. This foundation course will look at color through its physical properties as well as its expressive functions. The class will explore the properties of value, hue and intensity. The student will deal with problems in manipulating color as well as mixing it. Concern will be for the process of taking a color concept from idea to finished form. There will be emphasis on clarity of concept through quality of craftsmanship. 2 class hours and 2 lab hours per week.

FA7089 Dance Pedagogy

A 1-semester course; 3 credit hours. This is a course for prospective teachers of dance or for those preparing for a second career. Topics of study will include dance theory, prevention of dance injuries, and teaching methods for a wide variety of levels. An additional minimum of 12 hours of teaching on or off campus, will be required. 3 class hours per week. **Prerequisite:** FA7091 Dance in Performance and permission of the instructor.

FA7090 Dance Repertory

A 1-semester course; 3 credit hours. A rehearsal format along with work on technique, this course will encompass traditional, modern, jazz and ballet repertoire and require participation in two performances. 4 class hours per week. **Prerequisite:** Dance in Performance and permission of the instructor.

FA7091 Dance in Performance

A 1-semester course; 3 credit hours. The course will include a review of the basic techniques of Modern Dance, advance to more involved training in technique, movement and improvisation, and focus on the principle of dance production. Students will be intro-

duced to production areas such as choreography, programming, costuming, lighting, public relations, audiovisual, special effects and budget, and they will participate in the final performance of the semester, Still Point, given for the community. 3 class hours per week.

FA7094 Dance Composition

A 1-semester course; 3 credit hours. The course is designed to provide students with a broad perspective on movement, choreography and composition, through the study of dance history and various choreographic techniques. Students will have the opportunity to create and perform their individual works in a student performance to be given at the end of the semester. 3 class hours per week.

FA7096 Graphic Design I

A 1-semester course; 3 credit hours. An introductory course to develop: a basic understanding of the concept of graphic design as visual communication; the ability to apply fundamental design principles to typographic and pictorial elements to achieve a fully integrated visual message; and to take a concept from rough idea to final presentation for commercial reproduction. Consideration will also be given to the tools and media used in commercial design, layout and paste-up. 2 class hours and 2 lab hours per week.

FA7097 Graphic Design II

A 1-semester course; 3 credit hours. The course will focus on basic design skills applied to commercial reproduction, with attention to the function of advertising in our society. Effective use of image, lettering and color in layout and design will be a primary consideration. 2 class hours and 2 lab hours per week.

FA7121 Macintosh Design

A 1-semester course; 3 credit hours. An introduction to commercial art emphasizing computer illustration and type using the Macintosh computer as a tool for graphic design and desktop publishing. Content will include hands on practice with drawing, paint and word processing programs. Hardware products discussed as needed. Word processing and/or graphic design background helpful but not required. 2 class hours and 2 lab hours per week.

FA7122 Publication Design

A 1-semester course; 3 credit hours. This course explores typography, page ingredients and creative visual communication while learning to create publications with Pagemaker software for the Macintosh computer. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7121 Macintosh Design.

FA7123 Publication Design II

A 1-semester course; 3 credit hours. A computer graphics course using advanced page design, style and layout skills. Students will create publications with

QuarkXPress software on the Macintosh computer. Emphasis will be on developing promotional materials with pictures and creative images; doing color separation, page layouts with original and/or scanned art; advertising design. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7122 Publication Design.

FA7126 Advanced Publication Design

A 1-semester course; 3 credit hours. This course will provide advanced skills in publication design, computer illustration and the printing process. Students will demonstrate their competence through design projects using an advanced layout program QuarkXPress and an advanced drawing program Freehand. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7122 Publication Design.

FA7130 Animation

A 1-semester course; 3 credit hours. Emphasis will be on introducing students to computer animation, with specific projects to be done on the Macintosh computer. The main focus will be on mastering the tools and terms used in computer animation in order to design, illustrate and final edit animation clips. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7121 Macintosh Design.

FA7210 Portfolio for Illustration

A 1-semester course; 1 credit hour. Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for illustration by working on assigned projects, selecting and presenting work, developing appropriate associated materials (e.g. resume, card, stationery, tear sheets or printed pieces.) 1 class hour per week.

FA7211 Portfolio for Graphic Design

A 1-semester course; 1 credit hour. Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for graphic design by working on assigned projects, selecting and presenting work, developing appropriate associated materials (e.g. resume, card, stationery, tear sheets or printed pieces.) 1 class hour per week.

FA7212 Portfolio for Photography

A 1-semester course; 1 credit hour. Focus is on developing a portfolio for purposes of further study or professional marketing. The student will develop an appropriate portfolio for photography by working on assigned projects, selecting and presenting work, developing appropriate associated materials. 1 class hour per week.

FA7290 Dance Repertory II

A 1-semester course; 3 credit hours. A rehearsal format along with advanced work on technique, this course will encompass modern and jazz repertoire and require participation in four performances. The course will also include a dance history component and a thesis paper on dance performance or dance history. Students will devote 2 class hours a week to advanced technique as well as dance history and a minimum of 2 lab hours per week to learn and execute more advanced choreography. **Prerequisite:** FA7090 Dance Repertory.

FA9001 Illustration I

A 1-semester course; 3 credit hours. The aim of the course is to give exposure to a variety of media used in commercial illustration, as well as to the different types of illustration including book, newspaper and current event. Developing drawing skills will be an integral part of the course. The history of illustration will be presented in order to understand it as communication from concept to finished product. 2 class hours and 2 lab hours per week. **Prerequisite:** FA7030 Drawing I or permission of instructor.

FA9002 Illustration II

A 1-semester course; 3 credit hours. Illustration II will give students an opportunity to build on the conceptual and technical strategies of pictorial communication introduced in Illustration I. It will offer possibilities for refining graphic and aesthetic abilities, developing personal style, and applying those skills toward assignments with actual or simulated commercial applications. Students will be encouraged to start a professional portfolio and will be offered exposure to the business, as well as the art, of illustration. 2 lecture hours and 2 lab hours per week. **Prerequisite:** Illustration I.

FA9005 Computer Illustration

A 1-semester course; 3 credit hours. Emphasis will be on introducing students to computer illustration with specific projects to be done on the Macintosh computer. The main focus will be on using Adobe Illustrator and other draw and paint software to create original computer generated illustrations. Graphic and aesthetic fundamentals will be addressed; an emphasis of the course will be the connection of other commercial art courses to Computer Illustration. 2 class hours and 2 lecture hours per week. **Prerequisite:** FA7030 Drawing I; FA7121 Macintosh Design.

FRENCH**FR4401/FR4402 Introductory French I & II**

A 2-semester course; 3 credit hours per semester. For students who have not completed two years of secondary school French or the equivalent as determined by the department. An introduction to the basic grammatical patterns of French. Speaking, reading and writing in the French language. 3 class hours per week.

FR4451/FR4452 Intermediate French I & II

A 2-semester course; 3 credit hours per semester. For students who have completed two or more years of secondary school French or the equivalent as determined by the department, or who completed FR4401 and FR4402 successfully. A continued study of FR4401 and FR4402 language skills, emphasizing the development of reading ability. 3 class hours per week.

GEOGRAPHY**GE9511 Introduction to Geography**

A 1-semester course; 3 credit hours. A survey of the earth's political, social, cultural, and economic patterns and their relationship to the earth's physical features. The course will stress the location of nations and cities, rivers and seas, and it will examine the history and current political situation of each major area of the world. It will also discuss the exploitation of earth's resources with a view toward maintenance and restoration. 3 class hours per week.

GERMAN**GM4401/GM4402 Introductory German I & II**

A 2-semester course; 3 credit hours per semester. An adventure in German culture and communication. For students who have not completed two years of secondary school German or the equivalent as determined by the department. Audio-lingual emphasis. Introduction to grammatical patterns, speaking, reading and writing. 3 class hours per week.

GM4451/GM4452 Intermediate German I & II

A 2-semester course; 3 credit hours per semester. A further exploration of German life and language. For students who have completed two or more years of secondary school German or the equivalent as determined by the department, or who have completed GM4401 and GM4402. A workshop approach to the development of reading, speaking, translation and composition skills. 3 class hours per week.

GOVERNMENT

Note: Credit toward graduation will not be awarded for more than two of the following: Federal Government, State and Local Government, American Government and Politics.

GV3300 Introduction to Law

A 1-semester course; 3 credit hours. A survey of the structure, functions and development of the legal and judicial process with emphasis on legal concepts, terminology and case analysis. Attention will be given to historical background for Anglo/American practices. 3 class hours per week.

GV3301 U. S. Constitutional Law

A 1-semester course; 3 credit hours. Constitutional law is a formal body of rules which consist primarily of decisions and opinions of the U.S. Supreme Court. It is the study of factual background, historical and contemporary, of major Supreme Court cases to gain an analytical framework by which to understand the standards and tests applied by the Court in reaching decisions. Emphasis on U.S. governmental structure and relationships including relationships with state and local governments. 3 class hours per week. **Prerequisite:** Any previous course with a GV prefix passed with a grade of C- or better or permission of the instructor.

GV3310 American Government and Politics

A 1-semester course; 3 credit hours. Survey of the structure and operations of federal government as well as state government. The course will include the relationship of the three branches of the federal government to each other and to state governments. U.S. and state constitutions and their interpretations will be discussed. Emphasis is given to American political traditions, parties, processes and a range of governmental policies. **Note:** This course is designed to meet the requirements of state law for students who intend to transfer to Massachusetts state colleges. 3 class hours per week.

GV3312 Introduction to Political Science

A 1-semester course; 3 credit hours. Descriptive survey of the general principles of politics. Emphasis is given to the development of politics in society, the major political traditions and ideologies, and comparative governmental systems including institutions, political organization and behavior, and a select range of government policies. 3 class hours per week.

GV3315 Civil Rights and Liberties

A 1-semester course; 3 credit hours. Deals with the role of individual rights and liberties in American society within the framework of the U.S. Constitution. The paradox of freedom is essentially the core around which lectures, discussion and research will be conducted. It is advisable to take this course after having completed a course in federal government. 3 class hours per week. **Prerequisite:** Any previous course

with a GV prefix passed with a grade of C- or better or permission of the instructor.

GV3320 Women and the Law

A 1-semester course; 3 credit hours. Designed to introduce students to various areas of law that affect a woman's life. It will include such topics as an historical overview of women's legal rights in the U.S., employment rights and benefits, education, criminal law, marriage and divorce and reproductive issues as well as other constitutional issues specifically pertinent to women. Students will each explore one area in depth. This is an introductory course that does not presuppose prior study of law. 3 class hours per week.

GV3350 Politics and Society in Eastern Europe

A 1-semester course; 3 credit hours. This course will examine the nations of Eastern Europe in the post-communist era. Emphasis will be given to the impact of the breakup of the Soviet Union both on Russia and the other former Soviet Republics and on the former Soviet allies in Eastern Europe. Topics covered will include changes in government, the economy, and the overall organization of society. 3 class hours per week.

HEALTH INFORMATION TECHNOLOGY

MR6601 Medical Record Science I

A 1-semester course; 3 credit hours. The beginning of a series of courses designed to instruct students in the theory and principles of Health Information Technology. Subjects covered are orientation to medical record field, admitting areas, medical record forms and content, medical record formats (e.g., problem-oriented medical record), numbering and filing systems, record retention procedures, storage and retrieval systems, medical staff organization and by-laws. 3 class hours per week.

MR6602 Medical Record Science II

A 1-semester course; 3 credit hours. Course includes the study of principles of law as related to patient care and medical records, state and federal legislation regulating health care facilities or the delivery of health care services and the role of health accrediting agencies. Medicare, Medicaid, P.R.O. and other health related legislative programs will be covered. 3 class hours per week. **Prerequisite:** MR6601.

MR6605 Introduction to Medical Language I

A 1-semester course; 3 credit hours. A study of basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative, and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system included. The following systems are covered: integumentary, musculo-skeletal, cardiovascular, blood and blood forming organs. 3 class hours per week.

MR6606 Introduction to Medical Language II

A 1-semester course; 3 credit hours. A study of prefixes, suffixes, roots, abbreviations, symptomatic, disease, and operative terminology of the following systems are covered: digestive, respiratory, neurological, urogenital, maternal and antenatal, endocrine, organs of special sense, and systemic diseases. Also selected laboratory terms and selected medical terms relating to psychiatry are covered. 3 class hours per week. **Prerequisite:** MR6605 Introduction to Medical Language I.

MR6620 Directed Practice I (Medical Record)

A 1-semester course; 4 credit hours. Supervised practice in the medical record department of a community hospital affiliated with the Health Information Technology Program. Students participate in specific phases of medical record systems and become acquainted with the required medical record procedures of a local hospital. Several reports prepared by students relating to the experience are required. 16 hours per week. 2 hospital working days per week (own transportation necessary). **Prerequisite:** MR6606, MR6602 concurrently. Malpractice insurance necessary.

MR6622 Directed Practice II (Medical Record)

A 1-semester course; 4 credit hours. Supervised practice in health information systems in extended care facilities, psychiatric facilities, ambulatory care facilities and in related health care settings. Workshop, lecture, discussion group sessions on various aspects of health information systems in these types of health care facilities. When appropriate, field trips will be arranged in order to reinforce and demonstrate medical record systems in alternative health care settings. **Note:** Students must provide their own transportation. 2 days per week. **Prerequisite:** MR6651, MR6620. Malpractice insurance necessary.

MR6629 Medical Record Coding & Classification

A 1-semester course; 3 credit hours. Topics covered include history, format and conventions of the International Classification of Diseases. It will cover basic coding principles which allow clinical statements to be translated into code numbers. Included will be brief coverage of other coding systems that may be required or mandated in order for a facility to receive maximum reimbursement (e.g., HCPCS/CPT which is a system required for Medicaid billing of physician and other selected clinical services and for Medicare outpatient hospital services billing). 3 class hours per week. **Prerequisite:** BI5520, MR6606; BI5530 concurrently.

MR6630 Coding & Classification Practicum

A 45-hour practicum; 1 credit hour. The student will apply the principles of coding learned in the classroom under direct supervision of a coder/analyst at the affiliating health care facility. The coding systems applied will be ICD-9-CM and CPT 4. **Prerequisites:** MR6629 Medical Record Coding & Classification Systems.

MR6651 Medical Record Science III

A 1-semester course; 3 credit hours. Study of basic principles of compiling statistics for hospitals and other medical facilities. Topics include the daily census; analysis of hospital services; monthly, annual and special reports; methods of recording vital statistics; definitions and formulas, data abstracting systems, data entry and retrieval. Topics covered also include record systems in alternative health care settings (e.g., doctor's office, long term care, psychiatric, rehabilitation, HMO, ambulatory care and home health agencies). 3 class hours per week. **Prerequisite:** MR6602 and MR6620.

MR6655 Medical Record Science IV

A 1-semester course; 3 credit hours. Topics covered include quality improvement concepts and methodologies as they relate to the medical record keeping function. A study of the prospective payment system including DRG's, casemix and PRO is integrated with management of a medical record department. Management aspects covered include management of the transcription area, casemix management, quality improvement, utilization review, and risk management. 3 class hours per week. **Prerequisite:** MR6614.

MR6661 Medical Record Transcription I

A 1-semester course; 3 credit hours. Introduction to the role of the transcriptionist in health record services. It covers the operation and care of typewriting and transcribing equipment; techniques of transcription; and transcribing of sample medical communications, such as basic history and physical examination, reports of specialty departments (e.g., x-ray, pathology, EKG's, etc.). Also covered, the typing of various medical forms, admission records, group hospital insurance forms, doctor's service reports, patient transfer forms, etc.; the use of medical references with cross referencing; the proper spelling and punctuation of both common and medical terms. Quality of transcription emphasized rather than quantity. 4 class hours per week. **Prerequisite:** MR6605, MR6606. Typing 45 wpm with 5 errors or less or enrollment in Medical Terminology & Transcribing certificate program.

MR6662 Medical Record Transcription II

A 1-semester course; 3 credit hours. Development of medical transcription at a productive speed with accuracy. Units of history and physical examinations, surgical reports, and discharge summaries covering the areas of cardiology, obstetrics-gynecology, orthopedics, respiratory, gastroenterology, plastic surgery, urology, neurology, psychiatry, otorhinolaryngology, ophthalmology, and endocrinology-oncology. Rate of production is measured. Also medical timed writings and a review of English grammar, usage and style given. 4 class hours per week. **Prerequisite:** MR6661.

MR7701 Coding & Classification for Medical Billing

A 1-semester course; 3 credit hours. Designed to familiarize students with basic coding principles. Topics include format and conventions of ICD9-CM and HCPCS/CPT. These coding systems allow clinical statements to be translated into code numbers that are linked to reimbursement, and facilitate processing claims in accordance with payer requirements. 3 class hours per week. **Prerequisite:** MR6605 Introduction to Medical Language I. **Co-requisite:** MR6606 Introduction to Medical Language II.

MR7702 Medical Billing Administration

A 1-semester course; 3 credit hours. Designed to teach skills in the management of patient medical accounts using standard healthcare third party billing methodologies. Topics include insurance claim life cycle, analysis of common medical programs such as Blue Cross, Medicare, Medicaid, HMO's etc., billing forms, recording account transactions, legal issues, and handling patient inquiries. A standard medical billing software tool will be used in completing the practical application requirements of the course. **Co-requisite:** MR7701 Coding & Classification for Medical Billing.

MR7703 Medical Billing Internship

A 150 contact hour internship; 3 credit hours. The student will apply the billing, coding and patient account management principles learned in the classroom, under direct supervision of a third party billing professional in a health care facility and/or physicians office. The coding systems applied will be ICD-9-CM and CPT-4 and billing for a variety of third party payers. **Prerequisites:** MR7701 Coding & Classification for Medical Billing and MR7702 Medical Billing Administration.

HEALTH SERVICES

HS1010 Medical Terminology I

A 1-semester course; 1 credit hour. Basic prefixes, suffixes, roots, abbreviations, symptomatic, disease, operative and drug terminology. Terms will be taught by anatomical system with lectures on the anatomy of the system covered (the basics). The following systems are covered: integumentary, cardiovascular, urogenital, lymphatic, immune, blood and blood forming organs. 1 class hour per week.

HS1011 Medical Terminology II

A 1-semester course; 1 credit hour. A study of the language of medicine including the following topics: Prefixes, suffixes, roots, abbreviations, symptomatic, disease and operative terminology of the following systems: Digestive, neurological, maternal and antenatal, organs of special sense (eyes and ears),

respiratory, diagnostic and imaging, endocrine, pharmacy, musculoskeletal. In addition, selected laboratory terms and terms related to medical specialties like psychiatry, oncology, etc. 1 class hour per week. **Prerequisite:** HS1010 Medical Terminology I.

HS6651 Introduction to Health Services

A 1-semester course; 3 credit hours. A survey course to provide the student with a comprehensive overview of the health care delivery system and its integration within the community. Some of the topics to be covered are orientation to health professions, organizational patterns of health care, financing of health care, proposed state and federal legislation and medicolegal standards. Field trips and guest lecturers may be utilized. 3 class hours per week.

HS6710 Emergency Medical Technician

A 1-semester course; 7 credit hours. Specialized training for employees or volunteer members of public or private organizations having a responsibility for delivery of emergency care. The course is conducted by the college in cooperation with the North Shore Emergency Medical Council, Inc. Training areas covered will be respiration and resuscitation; medical and environmental emergencies, including unscheduled childbirth; injuries to the skull, brain, neck and spine; and bleeding, wounds and shock. Students must pass this course in order to be eligible to take the State Registry Exam for Emergency Medical Technicians. 7 class hours per week.

HISTORY

Note: A sequence of Western Civilization I & II or World Civilization I & II recommended. Transfer institutions should be consulted by the student as to their respective preferences. However, in no case will students be given credit for both Western Civilization I and World Civilization I or both Western Civilization II and World Civilization II.

HI9900 The Contemporary World

A 1-semester course; 3 credit hours. Survey of important political, social, economic and cultural developments in the world since 1945. Emphasis will be placed on the nuclear arms race, the Cold War, upheaval and transformation in the Third World and the rearrangement of the world balance of political and economic power. 3 class hours per week.

HI9901 Western Civilization I

A 1-semester course; 3 credit hours. Survey of major historical developments and trends in Western Civilization from their origins to 1715 with emphasis on the formation and evolution of the social, political, economic, religious and cultural institutions of ancient medieval and early modern Europe. 3 class hours per week.

HI9902 Western Civilization II

A 1-semester course; 3 credit hours. Survey of major historical developments and trends in Western Civilization from 1715 to the present with emphasis on the evolution of social, political, economic, religious and cultural institutions in modern Europe. 3 class hours per week.

HI9903 Early Civilization

A 1-semester course; 3 credit hours. Survey of major historical developments and trends in the rise of the West from their origins in the ancient Near East through Classical Greece and Rome to the decline and fall of the Roman Empire and the rise and triumph of Christianity. Attention is given to the formation and evolution of social, political, and economic institutions as well as intellectual, religious and cultural achievements. 3 class hours per week.

HI9904 World Civilization I

A 1-semester course; 3 credit hours. Survey of major world civilizations from their origins to 1500 stressing and interpreting social, cultural, intellectual, religious, economic and political developments of European, African, Asian and Amerindian societies and their contributions to humankind. 3 class hours per week.

HI9905 World Civilization II

A 1-semester course; 3 credit hours. Survey of major world civilizations from 1500 to the present, stressing social, cultural, intellectual, religious, economic and political developments of European, African, Asian, and Amerindian societies, their contributions to humankind and interaction. 3 class hours per week.

HI9913 U.S. History I

A 1-semester course; 3 credit hours. Survey of U.S. history from colonial times through the Civil War. Traces and development of political, social, cultural and economic institutions. 3 class hours per week.

HI9914 U.S. History II

A 1-semester course; 3 credit hours. Survey of U.S. history from reconstruction to the present. Examines political, social, cultural and economic institutions of the U.S. Focuses on the extension of those institutions through imperialism and the challenges to them by the depression and two world wars. 3 class hours per week.

HI9916 Recent U.S. History

A 1-semester course; 3 credit hours. Seminar on American history since World War II. Directed readings and emphasis on the major areas of recent national concern such as the welfare state, foreign affairs, changes in American society, the urban crisis in the postwar years, etc. In addition, projects, the intent of which is to depict some perspectives on contemporary America, are assigned. 3 class hours per week.

HI9917 The Family in History

A 1-semester course; 3 credit hours. Analysis of the changes in the structure and functions of the family in Western Europe and America from the 16th century to the present. Special emphasis will be placed upon the impact of industrialization and modernization upon the family and its individual members. 3 class hours per week.

HI9953 Modern China and Japan

A 1-semester course; 3 credit hours. Survey of Chinese and Japanese history and related areas from around 1800 to the present. This course will begin by exploring the nature of traditional China and Japan on the eve of confrontation with the West, their contrasting responses to Western power and ideas and their attempts at reconciling traditional and modern ideas and institutions; it will then proceed to examine the emergence of nationalism in China and Japan, the triumph of revolution in China and the establishment of the People's Republic and the growth of Japan into a modern industrial state. 3 class hours per week.

HI9955 Minority Groups in America

A 1-semester course; 3 credit hours. Seminar on the contributions and difficulties of religious, racial, ethnic and other minority groups in the pluralistic American Society from colonial times to the present. Particular attention will be given to the following groups: Catholic and Jewish, Native Indian, African-American and Hispanic, southern European and Asian. Students will research, write and present individual reports. 3 class hours per week.

HI9956 American Foreign Policy

A 1-semester course; 3 credit hours. Survey of U.S. foreign affairs from revolutionary times to the present. Special emphasis on America's emergence as a world power and her relationship with Europe, Latin American and the Far East. Attention will be paid to the developing roles of the President and the State Department, Congress and international organizations in our foreign policy. 3 class hours per week.

HI9958 Twentieth Century Russia

A 1-semester course; 3 credit hours. This course will begin by looking at tsarist Russia in order to understand the background to the Communist takeover in 1917. The successes and failures of the Communist system will then be examined. Attention will be given to the collapse of Communism and subsequent breakup of the Soviet Union. The course will conclude with an examination of Russia and the other former Soviet Republics in the post-Communist era. 3 class hours per week.

HI9959 History of Latin America

A 1-semester course; 3 credit hours. Survey of the historical development of Latin America from the preconquest societies to the present time. Emphasis is placed on the contributions made by the Indian traditions, the European conquerors, and the fusion of these two elements in the years following independence. The relationship between the United States and Latin America will be given special attention. 3 class hours per week.

HI9960 The Modern Middle East

A 1-semester course; 3 credit hours. Introductory survey of the social, political, intellectual, religious and economic forces that have shaped the contemporary Middle East. In addition to considering the Talmic and Ottoman backgrounds and influences common to most of the countries in the Middle East, each of the principal countries in this region will be examined separately. Special attention will be given to the problems resulting from the interaction of traditional indigenous elements and modern external forces among Arabs, Jews, Persians and Turks. 3 class hours per week.

**HI9962 Women's History:
Giving the Majority Its Past**

A 1-semester course; 3 credit hours. Women's experience has always made up half the past, thus, their lives and concerns are as important in the study of history as those of men. Introducing students of both genders to admirable people, male and female, is important, both for an understanding of what was possible and achieved in former times, and what one can become in today's world, drawing on that past heritage. This course examines those cultural assumptions by which a society measures the significance of all our lives. What do our instructional institutions (family, church, schools and media) teach us about individual values: what is expected of a little girl when she grows up and a little boy when he matures? Are these expectations realistic or biased? Does a double standard in income, morality and opportunity still exist? Women's history raises such questions and offers a challenge to teachers and students alike. The particular emphasis in period and culture will be determined by the instructor. 3 class hours per week.

**HOTEL & RESTAURANT
MANAGEMENT****HR6610 Intro. to Hospitality Management**

A 1-semester course; 3 credit hours. An introduction of hospitality related management issues as they apply to the operation of hotels and restaurants. Provides an analysis of management functions and responsibilities in areas of administration, organization, communication, accounting and human relations. 3 class hours per week.

**HR6615 Hotel Operations and
Organization Management**

A 1-semester course; 3 credit hours. Through an examination of the various operational divisions within a hotel-motel the student is given a comprehensive organizational overview of the property. All major operational departments will be covered such as rooms, food and beverage, sales and marketing, house-keeping, engineering, personnel, and convention services. 3 class hours per week.

HR6630 Food and Beverage Management

A 1-semester course; 3 credit hours. The study of food and beverage management and marketing systems, menu-planning, purchasing, production, service and control. 3 class hours per week.

HR6635 Front Office Procedures

A 1-semester course; 3 credit hours. A study of the flow of operations and functions performed at the front desk in the hospitality industry with a comparison of manual, machine-assisted and computerized methods for each procedures. 3 class hours per week.

HR6640 Hotel and Restaurant Law

A 1-semester course; 3 credit hours. A study of the laws applicable to hotel, motel and restaurant operations. Topics include state statutes and law governing innkeepers' liability, policy of disclaimer of liability, safety in service, and responsibilities to registered and non-registered guests. 3 class hours per week.

HR6645 Hospitality Seminar

A 1-semester course; 2 credit hours. A course designed to study current issues in the hospitality industry. Guest speakers from the field and a review of the literature of recent trade journals will be featured. 2 class hours per week.

HUMANITIES**HU4000 Introduction to Humanities**

A 1-semester course; 3 credit hours. Through thematically selected works of literature, film, music, art, religion, and philosophy, this team-taught course focuses on the individual's concept of self (identity, purpose, goals, destiny) and the individual's relationship to community (ethics, values, justice) as explored in the traditional and nontraditional intellectual and artistic heritage of humanity. 3 class hours per week.

HU4011 Art, Math and Nature

A 1-semester course; 3 credit hours. This team taught course, a joint venture of Bradford College and Northern Essex, explores the connections and relationships that exist in the world of nature, the world of forms and the world of ideas. It also examines the use of mathematics as an artistic tool for both two and three-dimensional design. 3 class hours per week.

HUMAN SERVICES

MH2111 Introduction to Human Services

A 1-semester course; 3 credit hours. An introduction to the history of psychiatry; current trends in human services, drug abuse and developmental disabilities; the human services team; and the role of the human service paraprofessional. Consideration will be given to the diagnostic evaluation, establishing contact with patients and families and techniques of interviewing. 3 class hours per week.

MH2133 Observation & Recording of Human Services Programs

A 1-semester course; 1 credit hour. A preliminary investigation of programs in human services, in varied institutional settings. Defined areas of mental health, drug abuse, developmental disabilities and other human services will be observed and recorded. These observations will be discussed in seminars held throughout the semester. 4 practicum hours per week. **Prerequisite:** Enrollment in the Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling programs.

MH2134 Human Services Practicum I

A 1-semester course; 4 credit hours. A rotating practicum in selected community psychiatric programs, developmental disability programs, social agencies, human service facilities and school settings. Under supervision, students will give direct care services to clients/patients individually or in groups and have opportunity to follow up clients/patients in the home and community. 12 practicum hours and 1 class hour per week. **Prerequisite:** Enrollment in the Human Services program.

MH2143 Human Services Practicum II

A 1-semester course; 4 credit hours. A continuation of Practicum I but with a greater involvement in client/patient care and services. 12 practicum hours and 1 class hour per week. **Prerequisite:** Enrollment in the Human Services program.

MH2144 Human Services Practicum III

A 1-semester course; 4 credit hours. A continuation of Practicum II with more intensive involvement in human service facilities. 12 practicum hours and 1 class hour per week. **Prerequisite:** Enrollment in the Human Services program.

MH2145 Human Services Practicum in Residential Services I

A 1-semester course; 4 credit hours. A practicum in selected community residences for the mentally ill, emotionally disturbed and developmentally disabled. Under supervision, students will give direct services to residents individually or in groups and assist residents

to reach to their maximum potential development, master independent living skills, and to integrate into the community. 1 class hour and 12 practicum hours per week. **Prerequisite:** Enrollment in the Community Residence Manager programs.

MH2146 Human Services Practicum in Residential Services II

A 1-semester course; 4 credit hours. A continuation of Practicum I but with a greater involvement in activities of a community residence manager. 1 class hour and 12 practicum hours per week. **Prerequisite:** Enrollment in the Community Residence Manager programs.

MH2147 Group Dynamics

A 1-semester course; 3 credit hours. Course aims to help students realize their potential for growth more fully and increase their ability to work effectively with others in a variety of situations. Students will learn how groups work and how individuals function within groups by forming a group for this purpose. Phases of group development, communication and group performance are experienced and discussed. 3 class hours per week. **Prerequisite:** Enrollment in the Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling programs.

MH2155 Modalities of Treatment

A 1-semester course; 3 credit hours. The management of special problems with adults and children will become the central focus of this course. The course will explore various systems of personality and the application of these systems to practice; individual therapy; group therapy; family therapy. Special emphasis will be given to the role of the human service middle-level professional in treatment. 3 class hours per week. **Prerequisite:** Enrollment in the Human Services or Alcohol Drug Abuse Counseling programs.

MH2156 Behavior Management Principles & Techniques

A 1-semester course; 3 credit hours. This course seeks to acquaint students with the application of principles of instrumental learning theory to the problems of human behavior. Focus will be on an approach to patient/client management problems and practical techniques for helping them to improve functioning in the community. Content will include the analysis of behavior, reinforcement of behavior, point or token system, shaping process, ethical issues and future trends in behavior therapy. 3 class hours per week. **Prerequisite:** Enrollment in the Human Services or Community Residence Manager program.

MH2166 Seminar in Human Services

A 1-semester course; 3 credit hours. This seminar course allows for group discussion of theoretical and practical approaches to client/patient care. Analysis of practicum experiences; preparation for service in various agencies; and graduate's identity as a human

service middle-level professional. 3 class hours per week. **Prerequisite:** Enrollment in Human Services, Community Residence Manager or Alcohol/Drug Abuse Counseling program.

MH2168 Human Services Practicum I in Alcohol/Drug Abuse Services

A 1-semester course; 4 credit hours. A practicum in selected alcohol/drug abuse agencies, hospitals detoxification centers, outpatient clinics, and special programs which provide care and services for alcohol/drug abusers. Under supervision, students will give services to clients individually or in groups and have the opportunity to follow up clients in the community. 12 practicum hours and 1 class hour per week. **Prerequisite:** Enrollment in Human Services: Alcohol/Drug Abuse Counseling program.

MH2169 Human Services Practicum II in Alcohol/Drug Abuse Services

A 1-semester course; 4 credit hours. A continuation of Practicum I but with greater involvement in client care and services. 12 practicum hours and 1 class hour per week. **Prerequisite:** Enrollment in Human Services or Alcohol/Drug Abuse Counseling program.

MH2170 Alcohol and Drug Abuse

A 1-semester course; 3 credit hours. This course is designed to generate an understanding of alcohol use, drug use and misuse, addiction and personal and social consequences. There will be discussion of community approaches to drug abuse, state and federal legislation, etiology, symptomology and current treatment modalities. The primary goal of this course is to provide future and/or present personnel in the field with basic information needed to provide services to this type of client and family. 3 class hours per week. **Prerequisite:** Enrollment in Human Services or Alcohol Drug Abuse Counseling Programs.

MH2171 Counseling Techniques with Drug Abusers

A 1-semester course; 3 credit hours. This course will focus on helping the participants develop approaches and intervention strategies for helping people with alcohol/drug abuse problems. Special treatment philosophies, settings, systems and methods will be explored and discussed. Emphasis will be placed on helping human service counselors deal with alcohol/drug related issues in the context of their general counseling approach. Some background information concerning the physiological effects of alcohol in the body will be presented. 3 class hours per week. **Prerequisite:** Enrollment in Alcohol/Drug Abuse Counseling program.

ITALIAN

IT4401/IT4402 Introductory Italian I and II

A 2-semester course; 3 credit hours per semester. For students who have not completed two years of secondary school Italian or the equivalent as determined by the college. Audio-lingual emphasis. Introduction to grammatical patterns, reading and writing. 3 class hours per week.

KEYBOARDING

TW6600 Computer Keyboarding I

A 1-semester course; 1 credit hour. Designed to teach keyboarding skills to students entering a variety of fields such as computer science, data processing, accounting or any occupation that utilizes a keyboard similar to a typewriter to input information. 1 class hour per week.

TW6602 Computer Keyboarding II

A 1-semester course; 1 credit hour. Continues the development of basic keyboarding skills started in Computer Keyboarding I with emphasis on improving speed and accuracy on typewriters, computer terminals, and other automated equipment. This course will prepare students for the growing variety of jobs which require keyboarding skills to input information accurately and quickly. 1 class hour per week. **Prerequisite:** Computer Keyboarding I or equivalent.

TW6640 Keyboarding I

A 1-semester course; 3 credit hours. Designed to develop touch control of the keyboard and proper typewriting techniques. Concentration on building speed and accuracy skills. This course is designed to emphasize the application of these skills to common business correspondence. 3 class hours per week.

TW6641 Keyboarding II

A 1-semester course; 3 credit hours. Extension of typewriting skills to higher performance levels. Emphasis on production typing including basic reports, term papers, special features of business letters, and simulated office projects. 3 class hours per week. **Prerequisite:** TW6640 or equivalent with a grade of C or better.

LANGUAGE

LN1001 Introduction to Language

A 1-semester course; 3 credit hours. General overview of the study of language to include the origin and development of language, universal properties of language, language acquisition, dialects; meaning changes and semantics. Various languages, American Sign Language, and history of the English language will be discussed. 3 class hours per week.

LAW

LW6635 International Business Law

A 1-semester course; 3 credit hours. An introduction to the basic aspects of international legal rules as they bear directly on persons and business organizations engaged in commercial transactions across national borders. 3 class hours per week. **Prerequisite:** Business Law I or equivalent.

LW6651 Business Law I

A 1-semester course; 3 credit hours. A course presenting an integrated approach to the legal environment of business with a fresh up to date introduction to those aspects of our legal system which cut across all areas of law, establishing a vital foundation for understanding the substantive subjects such as the American system of jurisprudence, constitutional law, the dual court system, administrative agencies, consumer protection, environmental law, Uniform Commercial Code, torts and crimes and a thorough understanding of the Law of Contracts. 3 class hours per week.

LW6652 Business Law II

A 1-semester course; 3 credit hours. Continuation of LW6651 developing a basic understanding and application of the Uniform Commercial Code consisting of sales, commercial paper, Law of Agency, banking, Letter of Credit, bulk transfer, documents of title, investments and secured transactions, and a general understanding of business organizations, bankruptcy, and estates and trusts. 3 class hours per week. **Prerequisite:** LW6651.

LW6653 Real Estate Law

A 1-semester course; 3 credit hours. This course surveys real estate law principles and practice, including antecontractual considerations, the purchase and sale agreement, closing requirements, title searching techniques, and landlord/tenant law. Drafts of a residential purchase and sale agreement, as well as all necessary closing papers are required. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. 3 class hours per week. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6661 Litigation

A 1-semester course; 3 credit hours. A study of the structure, jurisdiction and procedure of the state and federal courts. Emphasis is on the development of the skills required of a paralegal including: preparation of pleadings, use of rules of procedure, discovery procedure, client intake and case investigation. 3 class hours per week. **Prerequisite:** LW6670 Legal Research & Drafting. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6662 Wills, Estates & Trusts

A 1-semester course; 3 credit hours. A survey of the laws and documents that affect the disposition of an individual's assets at death. Areas addressed include: estate administration, court and probate proceedings, types of wills and trusts, decent, distribution and fiduciary accounting. 3 class hours per week. **Prerequisite:** LW6670 Legal Research and Writing. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6663 Corporate Law

A 1-semester course; 3 credit hours. This course first surveys the formation and structure of sole proprietorships, partnerships, and limited partnerships. It then focuses substantial attention on the formation and structure of corporations, covering topics such as financial structure, meetings, reorganization, dissolution, liquidation, mergers and acquisitions, and employment and compensation. Students must draft partnership agreements, as well as the articles of incorporation and bylaws of a corporation. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6670 Legal Research & Drafting. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6664 Family Law

A 1-semester course; 3 credit hours. Course surveys family practice and procedure topics including, parental prerogatives, marriage, separation, divorce, custody and support, adoption and guardianship. Students learn to conduct client interviews, and draft pleadings necessary to the general practice of family law. Students are urged to take GV3300 Introduction to Law prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6670 Legal Research & Writing. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6665 Taxation

A 1-semester course; 3 credit hours. Designed to introduce the student to the historical development of federal tax law and the underlying rationale for U.S. and state tax systems. Tax concepts as they relate to procedural and substantive aspects for filing and executing individual, corporate, partnership and fiduciary tax returns (income estate and gifts) will be discussed. Abstracting data for tax audits, appellate procedures and judicial determination, as well as updates to reflect changes in the tax law are included. (This is not a tax preparation course.) It is strongly recommended that GV3300 Intro. to Law be taken prior to or simultaneously with this course. 3 class hours per week. **Prerequisite:** LW6670 Legal Research & Drafting

and LW6663 Corporate Law. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

LW6666 Tort Law

A 1-semester course; 3 credit hours. This course will emphasize substantive tort law topics including, intentional torts (assault, battery, false imprisonment), negligence, professional malpractice, strict liability and products liability. Students will draft and respond to tort-related pleadings, discovery and motions. Introduction to Law prior to or simultaneously with this course is highly recommended. 3 class hours per week.

Prerequisite: LW6670 Legal Research and Writing. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.

LW6667 Computer Applications in the Law

A 1-semester course; 3 credit hours. Survey of legal applications, including, but not limited to, litigation support database systems, timekeeping, advanced computerized legal research, and specific real estate law software programs. Hands-on legal training is emphasized. 3 class hours per week. **Prerequisites:** LW6670 Legal Research and Writing, LW6653 Real Estate Law, LW6664 Family Law. Students not enrolled in the Paralegal Program need permission of the program coordinator to enroll in this course.

LW6670 Legal Research & Writing

A 1-semester course; 4 credit hours. This course is an introduction to legal research methods, use of the law library, and computer-aided legal systems. Student will receive practical experience in the research and preparation of case briefs and legal memoranda with focus on the laws of the Commonwealth of Massachusetts and its court system. Use of, and familiarity with area law libraries will be required. 4 class hours per week.

Prerequisite: Students must qualify at the English Composition I level. Students not enrolled in the Paralegal program need permission of the program coordinator to enroll in this course.

MANAGEMENT

MG6620 Intro. to Total Quality Management

A 1-semester course; 3 credit hours. Introduces the principles of companywide quality management including the theories of Deming, Ishikawa, Juran, Crosby and others. Students will apply various tools for process improvement to work-related problems. 3 class hours per week.

MG6625 Planning for Total Quality Management

A 1-semester course; 3 credit hours. Introduces principles, strategies and tools for planning a companywide quality program including Hoshin and other planning models, company self appraisal techniques, employee

involvement and product/process development. 3 class hours per week. **Prerequisite:** Introduction to Total Quality Management (may be taken concurrently) or equivalent experience.

MG6630 Management of Total Quality Systems

A 1-semester course; 3 credit hours. Introduces principles and systems for implementing and managing companywide quality practices, including standardization, supplier quality, production systems, support systems, employee involvement, and continuous improvement. 3 class hours per week. **Prerequisite:** Introduction to Total Quality Management or equivalent experience.

MG6633 Process Control & Improvement

A 1-semester course; 3 credit hours. Introduces methods of managing production within acceptable limits, identifying causes of unacceptable products, preventing defects, and improving processes. Primary focus on Statistical Process Control; also includes graphical problem solving tools, source inspection and poka-yoke systems, team process improvement techniques, and suggestion systems for waste elimination. 3 class hours per week. It is recommended that Introduction to Total Quality Management be taken prior or concurrent to this class.

MG6635 Management Production Design

A 1-semester course; 3 credit hours. Introduces management concepts and systems of product design to meet customer needs and expectations, including: managing the integrated development of product, processes and support systems; gaining customer satisfaction through Quality Function Deployment; Taguchi and Western design of experiments; and managing the product over time. 3 class hours per week. **Prerequisite:** Process Control and Improvement or equivalent experience.

MG6654 Purchasing I

A 1-semester course; 3 credit hours. Designed as the first of two offerings in purchasing management technology. Emphasis will be placed on the management and inhouse organization of the purchasing department. Topics include purchasing procedures, information flow systems, standards and specifications, quality and inspection and decision making techniques for quantity considerations, supplier selection and price determination. 3 class hours per week.

MG6655 Purchasing II

A 1-semester course; 3 credit hours. Continuation of Purchasing I, this course will cover additional topics in purchasing technology. Contents include: ethics and the law, negotiations, capital goods, commodities and foreign purchasing, disposal of surplus, transportation, research, planning and budgeting, and performance evaluation. 3 class hours per week. **Prerequisite:** Purchasing I.

MG6666 Principles of Management

A 1-semester course; 3 credit hours. An introduction to the principles and practices of management, with emphasis on the management functions of planning, organizing, staffing directing and controlling. The course serves the dual purpose of giving the students a basic foundation of management concepts and an understanding of the organization within which they must work. 3 class hours per week.

MG6670 Negotiations in Business

A 1-semester course; 3 credit hours. Designed to provide the student with an understanding of various negotiating techniques and their application in different circumstances. Discussions include why these techniques work, how they work, when they should be used and how to defend against their misuse. Purchasing professionals need these skills in the daily performance of their duties; other managers will benefit from these techniques as well. 3 class hours per week.

MG6676 Human Resources Management

A 1-semester course; 3 credit hours. Principles and human relations problems involved in the administration of personnel. Topics include job analysis and specification, recruitment, selection and training, job evaluation, supervision of employees, and salary and wage administration and labor relations. 3 class hours per week.

MG6686 Small Business Management

A 1-semester course; 3 credit hours. Covers the challenges and objectives of owning a small business. It will identify the types of individuals who ought to consider self-entrepreneurship as well as what type of business one should enter. Full planning and executing of the start-up of a small business and/or entering an existing business. Planning, organizing, directing and controlling the activities of the firm. 3 class hours per week.

MG7700 Intro. to Strategic Management

A 1-semester course; 3 credit hours. Reviews the nature and importance of strategic management in business, industry and service organizations. Topics include: basics of strategic analysis, implementation and management of change and innovation; using group dynamics and effective presentational skills in the integration of different operations and functions in business management; and analysis of various strategic situations in business using a case study approach. 3 class hours per week.

MG7701 Principles of Materials Management

A 1-semester course; 3 credit hours. Designed to introduce the student to materials management. From a broad review of the growth of modern material control theories and principles, this course progresses to a detailed review of the major functional areas

within materials: production control, inventory control, purchasing, shipping, receiving, stockrooms and traffic. 3 class hours per week.

MG7704 Inventory Management

A 1-semester course; 3 credit hours. Includes a study of general inventory management, inventory management systems and finished goods distribution. General inventory management addresses objectives and decisions, accounting and control of inventory and the relationship of inventory management to other business functions. Inventory management systems deals with the mathematical models used to describe and predict inventory results. Finished goods distribution develops the procedures and rules used to achieve inventory results in this area. 3 class hours per week.

Prerequisite: Principles of Materials Management or equivalent field experience.

MG7705 Master Planning

A 1-semester course; 3 credit hours. Covers two related areas: forecasting, which is concerned with future predictions, and master scheduling, which is concerned with the preparation and maintenance of an anticipated build schedule and master game plan. 3 class hours per week.

Prerequisite: Principles of Materials Management or equivalent field experience.

MG7706 Material Requirements Planning

A 1-semester course; 3 credit hours. This course covers the principles of material requirements planning or MRP, a timed-phased planning technique that combines two ideas: calculation of dependent demand for component items and the addition of timing to inventory status data. 3 class hours per week. **Prerequisites:** Principles of Materials Management or equivalent field experience.

MG7720 Production & Capacity Management

A 1-semester course; 3 credit hours. Provides the student with an understanding of the techniques and principles used by managers to plan and control factory capacities, and to schedule, control and assess the effectiveness of production operations. 3 class hours per week. **Prerequisite:** Principles of Materials Management or equivalent field experience.

MG7730 Just-In-Time Manufacturing

A 1-semester course; 3 credit hours. Provides the student with a thorough understanding of the principles of Just In Time manufacturing, its many aspects and its implementation. 3 class hours per week. **Prerequisites:** Principles of Materials Management or equivalent field experience.

MARKETING

MK6678 Principles of Marketing

A 1-semester course; 3 credit hours. Introduction to marketing with emphasis placed on the firm as a marketing system which must survive in its external environment of markets, resources and the general society. The concepts of market segmentation, corporate objectives, marketing strategies and marketing information systems will be stressed. 3 class hours per week. **Prerequisite:** BU4400 Intro. to Business.

MK6679 Advertising

A 1-semester course; 3 credit hours. Analysis of buying motives and the development of various advertising appeal. Planning, budgeting and testing of phases of the program and the several advertising media. 3 class hours per week.

MK6680 Intro. to Retailing Management

A 1-semester course; 3 credit hours. Basic elements of retail merchandising. Types and organization of retail outlets. Buying, pricing, dollar and unit stock control, sales promotion, and expense budgets. 3 class hours per week.

MK6681 Salesmanship

A 1-semester course; 3 credit hours. Fundamentals of salesmanship by studying the behavioral aspects of the persuasion process; a systematic approach to selling which the student can use to develop the techniques which fit his own personality and particular situation. 3 class hours per week.

MK6683 Global Marketing

A 1-semester course; 3 credit hours. Provides a study of methods for the marketing of products and services in the international marketplace. The course will focus on the impact of variations in the following environmental factors: cultural, economic, technological, political and legal. Strategies will be developed for market research, planning and decision making in the creation of marketing plans. 3 class hours per week. **Prerequisite:** A grade of C or better in MK6678 Principles of Marketing.

MK6685 Marketing Entrepreneurial Ventures

A 1-semester course; 3 credit hours. Marketing principles and strategies for entrepreneurial ventures. Case studies which focus on the application of marketing tools and techniques to small businesses will be used. Students will participate in the process of creating a marketing plan for a small company. 3 class hours per week. **Prerequisites:** BU4450 Introduction to Entrepreneurship, MK6678 Principles of Marketing.

MK6688 Consumer Decision Making

A 1-semester course; 3 credit hours. Concerned with the decision making process that occurs in the market place. The emphasis is placed on the marketing implications of the internal and external environmental influences on the buyers' decision making process.

Organizational decision making, as well as the individual consumer models will be presented. 3 class hours per week.

MK6690 Intro Sales Management

A 1-semester course; 3 credit hours. Concerned specifically with the management of an outside sales force and its activities. Students will be provided with a systematic conceptual framework for understanding the sales manager's decision processes as well as presenting the latest sales practices and sales management techniques. 3 class hours per week.

MATHEMATICS

Note: Students enrolling in any math course must first take the college assessment test. Placement is according to assessment test results.

MA0020 Basic Mathematics

A 1-semester course; 3 credit hours. Designed to provide basic mathematics skills required in other courses. Topics include complete review of arithmetic and introduction to algebra and geometry, emphasizing practical applications. **This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable. Students who receive less than a C- grade will be required to repeat this course.** 3 class hours per week. **Prerequisite:** Recommendation of instructor or placement from assessment exams.

MA0030 Basic Algebra

A 1-semester course; 3 credit hours. Designed to prepare students for other courses which require basic skills in algebra. Topics include number systems, linear equations, polynomials, factoring, and applications. **This course is considered a developmental course and does not carry graduation credit. It is not usually transferrable.** 2 class hours and 2 lab hours per week. **Prerequisite:** C- or better in MA0020, recommendation of instructor or placement from assessment exams.

MA5501 Intermediate Algebra

A 1-semester course; 3 credit hours. Designed as a sequel to Basic Algebra or as a first course for students who have had at least one year of high school algebra. Topics such as algebraic fractions, systems of linear equations, inequalities and quadratic equations will be included. This course will not carry graduation credit in some programs. (For example, Engineering and Technology programs, Liberal Arts, General Studies.) Check individual programs for math requirements. 3 class hours per week. **Prerequisite:** One year of high school algebra or a "C" or better in MA0030 or equivalent.

MA5506 Statistics

A 1-semester course; 3 credit hours. Set theory approach to probability. Descriptive statistics. Probability distributions. Sampling inferences from statistics. Hypothesis testing. Linear regression and correlation; computer component when applicable. 3 class hours per week. **Prerequisite:** Two years of high school algebra or "C" or better in MA5615 or equivalent.

MA5520 Liberal Arts Mathematics I

A 1-semester course; 3 credit hours. Surveys some of the important ideas in mathematics. Topics such as problem solving by inductive and deductive reasoning, mathematical logic and number systems are included. 3 class hours per week

MA5525 Liberal Arts Mathematics II

A 1-semester course; 3 credit hours. Explores some of the interesting and useful aspects of mathematics such as probability, statistics, topology, mathematical modeling and the philosophy of mathematics. 3 class hours per week.

MA5613 Mathematics of Finance

A 1-semester course; 3 credit hours. The mathematics used in business transactions. This course will not carry graduation credit in some programs. (For example, Engineering and Technology programs, Liberal Arts, General Studies.) Check individual programs for math requirement. 3 class hours per week.

MA5614 Introduction to Discrete Mathematics

A 1-semester course; 3 credit hours. Introduction to the study of finite systems. Topics will include logic and sets, relations and functions, mathematical induction and proofs, combinatorics, probability, matrices, graphs and digraphs. Special emphasis is given to applications in the computer science field. 3 class hours per week. **Prerequisite:** 2 years of high school algebra or equivalent.

MA5615 College Algebra

A 1-semester course; 3 credit hours. Provides a comprehensive knowledge of algebra using a strong functional approach and an emphasis on graphing to visualize and solve real life problems. Topics include linear and quadratic modeling; solutions of equations and inequalities; symmetry, translations and reflections of graphs; analysis of functions using domain/range and increase/decrease; composition, inverse and one to one functions; logarithmic and exponential function; and systems of equations. Credit not given for both College Algebra and College Algebra and Trigonometry. 3 class hours per week. **Prerequisite:** 2 years of high school algebra or a C or better in MA5501 Intermediate Algebra or equivalent.

MA5620 Mini Trig

A 1-semester course; 1 credit hour. Introduction to trigonometry designed for the student with two years of high school algebra, but little or no trigonometry.

This course covers all the trigonometric topics discussed in MA5621. 1 class hour per week.

MA5621 College Algebra & Trigonometry

The first course in a 2-semester sequence; 4 credit hours. This course and its sequel MA5622 are intended as preparation for the calculus sequence beginning with MA5690. This course covers two interrelated areas: algebra using a strong functional approach and an introduction to trigonometry. Both emphasize graphing to visualize and solve real life problems. Topics include: linear and quadratic modeling; solutions of equations and inequalities; symmetry, translations and reflections of graphs; analysis of functions using domain/range and increase/decrease; composition, inverse, one to one, and trigonometric functions; vectors; DeMoivre's Theorem; and determinants. Credit not given for both College Algebra and College Algebra and Trigonometry. 4 class hours per week or 3 class hours plus a 2-hour problem session per week. **Prerequisite:** 2 years of high school algebra or C or better in MA5501 Intermediate Algebra or equivalent.

MA5622 Advanced Algebra & Trigonometry

Second course in a 2-semester sequence; 4 credit hours. Continuation of MA5621. Advance topics in algebra and trigonometry are covered. 4 class hours per week or 3 class hours plus a 2-hour lab per week. **Prerequisite:** C or better in MA5621 or equivalent.

MA5650 Technical Mathematics for Industry

A 1-semester course; 4 credit hours. Reviews basic mathematical concepts needed in industry, ranging from fractions and decimals to selected topics from geometry, algebra and trigonometry. 4 class hours per week.

MA5673 Quantitative Methods for Business/Social/Life Sciences

A 1-semester course; 3 credit hours. Topics included in this algebra based course are matrices, linear systems of equations and inequalities, linear programming, probability, decision theory and statistics. Special emphasis is given to applications in business, social and life sciences. 3 class hours per week. **Prerequisite:** C or better in MA5615 or 2 years of high school algebra or equivalent.

MA5675 Calculus I for Business/Social/Life Sciences

First course in a 2-semester sequence; 3 credit hours. Topics included in this algebra based course are polynomial, exponential and logarithmic functions, limits and differentiation. Special emphasis is given to applications in business, social and life sciences. 3 class hours per week. **Prerequisite:** 2 years of high school algebra, C or better in MA5615 or equivalent.

MA5676 Calculus II for Business/Social/Life Sciences

Second course in a 2-semester sequence; 3 credit hours. Continuation of MA5675. This course includes techniques of integration, differential equations, and multi-variable functions. 3 class hours per week. **Prerequisite:** C or better in MA5675.

MA5685 Differential Equations

A 1-semester course; 4 credit hours. This course includes fundamentals of ordinary linear differential equations, LaPlace Transforms and numerical methods of solutions. 4 class hours per week. **Prerequisite:** C or better in MA5693 or equivalent.

MA5689 Calculus Enrichment Lab

A 1-semester course; 1 credit hour. Assists students to understand the concepts in calculus by doing projects and examining graphs with graphing calculators and computers. Topics include introduction to graphing calculators, domain/range, limits, continuity, differentiation, Newton's Method, integration, and Simpson's Rule. **Prerequisite:** MA5690 (may be taken concurrently).

MA5690 Calculus I

The first course in a 3-semester sequence; 4 credit hours. This sequence is designed for the Engineering, science or mathematics major who needs to master the techniques of calculus. Beginning with functions and limits, this course includes techniques and applications of differentiation, indefinite and definite integrals and applications of integration. 4 class hours per week. **Prerequisite:** 2 years of high school algebra and a semester of trigonometry, C or better in MA5622, or equivalent.

MA5692 Calculus II

The second course in a 3-semester sequence; 4 credit hours. Continuation of MA5690. Topics include: applications of integration including, area and volume, techniques of integration, improper integrals and power series. 4 class hours per week. **Prerequisite:** C or better in MA5690 or equivalent.

MA5693 Calculus III

The third course in a 3-semester sequence; 4 credit hours. Continuation of MA5690 and MA5692. Topics include vector calculus, partial differentiation and multiple integration. 4 class hours per week. **Prerequisite:** C or better in MA5692 or equivalent.

MEDICAL ASSISTANT

MS1002 Fundamentals of Medical Assisting I: Clinical

A 1-semester course; 2 credit hours. A study of the principles of the clinical duties performed by the medical assistant. Included are vital signs, positioning and draping, electrocardiographic (EKG) techniques, sterilization, and aseptic techniques. An introduction to pharmacology is included. 1 class hour and 2 lab hours per week.

MS1005 Medical Transcription for Medical Assistants

A 1-semester course; 2 credit hours. Introduction to the role of the transcriptionist in a variety of medical settings. Care, operation, utilization of keyboarding and transcribing equipment as well as transcribing techniques is included. Emphasis is placed on quality rather than quantity of production. Units included are: History and Physicals; Radiology Reports; Discharge Summaries; Operations; Pathology & Autopsy reports. 1 class hour and 2 lab hours per week. **Prerequisite:** Keyboarding - 30 wpm. **Co-requisite:** HS1010 or equivalent.

MS1015 Fundamentals of Medical Assisting: Administrative

A 1-semester course; 5 credit hours. This course will offer the students the opportunity to explore, study and practice the numerous administrative business techniques which are utilized for communications and medical and financial records in a variety of health care settings. It will concentrate on the various insurance plans available to the health care consumer. The proper method of filing third-party claims and crediting reimbursements will focus on the use of the computer in the medical office environment. Computer applications as they relate to third-party billing and completion of insurance forms will be stressed. The ethical structure and general principles of law which affect the role of the medical assistant is included. 3 class hours and 6 lab hours per week.

MS2002 Fundamentals of Medical Assisting II: Clinical

A 1-semester course; 2 credit hours. Continuation of Fundamentals of Medical Assisting I: Clinical. Included are examining room arrangement and parental administrations. Pharmacological studies are also included. 1 class hour and 2 lab hours per week. **Prerequisite:** A grade of C or better in MS1002.

MS2010 Basic Laboratory Procedures for Medical Assisting

A 1-semester course; 2 credit hours. Students develop the skills necessary to perform basic routine laboratory procedures which are included within the parameters of the role of the Medical Assistant. Included are correlated theory and supervised laboratory practice. 1 class hour and 3 lab hours per week. **Prerequisite:** A grade of C or better in MS1001 and MS1002.

MS2012 Medical Assisting Practicum

A one semester course; 4 credit hours. This course requires a minimum of 240 hours of experience in a variety of health care settings. Students will be assigned on a rotating basis. 16 practicum hours per week. **Prerequisite:** A grade of C or better in MS1001 and MS1002.

MS2015 Medical Assistant Seminar

A 1-semester course; 1 credit hour. This course explores the professional issues that affect the medical assistant. The current trends in education, certification and employment and their impact on the practicing medical assistant will be emphasized. Employment seeking techniques such as resume preparation and interviewing skills will be included. 1 class hour per week.

MEDICAL INTERPRETER**MI1001 Medical Interpreting I**

A 1-semester course; 4 credit hours. Provides general information about the field of medical interpreting; stressing the importance of a professional attitude toward interpreting, especially as developed through observance of ethical standards. Additionally, rudimentary interpreting skills will be introduced through laboratory exercises. Understanding these aspects of interpreting is enhanced through participation in the course Practicum I. 3 class hours and 3 lab hours per week. **Prerequisite:** Acceptance into the Medical Interpreter Program.

MI2001 Medical Interpreting II

A 1-semester course; 4 credit hours. This is the second course in a series of courses designed to develop and maximize an individual's cultural and linguistic arbitration (interpreting) skills. This course will build upon and enhance those abilities by utilizing specific targeted modules in which a student must interpret all of the distinct cultural and linguistic variables presented within a scenario. This approach will address the cultural and linguistic mediation skills needed to interpret effectively within the medical community. 3 class hours and 3 lab hours per week. **Prerequisite:** Completing Medical Interpreting I with a grade of "C" or better.

MI2010 Introduction to Practicum

A 1-semester course; 2 credit hours. Emphasizes the important aspects of professional interpreting, (e.g. physical factors, style of communication employed, professional attitude, and approach to assignment, etc.). The field experience will provide both the opportunity to observe the material discussed in the classroom and to participate in actual interpreting situations. 1 classroom seminar plus 4 field hours per week. **Prerequisite:** Medical Interpreting I with a grade of "C" or better and simultaneous enrollment in Medical Interpreting II, or with permission of the coordinator.

MI2012 Practicum I

A 1-semester course; 3 credit hours. Emphasizes the means for successful performance in professional interpreting situations. Field experience allows the student to put theory into practice by providing opportunities for participation in various interpreting settings. 1 class hour plus 8 hours in the field each week. **Prerequisite:** Medical Interpreting II with a grade of 'C' or better and simultaneous enrollment in Medical Interpreting III, or with permission of the coordinator.

MI3001 Medical Interpreting III

A 1-semester course; 4 credit hours. This is the last course in a series designed to develop and maximize an individual's cultural and linguistic mediation (interpreting) skills. This course will refine and enhance those abilities by utilizing specific targeted modules in which a student must interpret all of the distinct cultural and linguistic variables presented within a scenario. This approach addresses the cultural and linguistic arbitration skills needed to interpret effectively within the medical community. 3 class hours and 3 lab hours per week. **Prerequisite:** Completing Medical Interpreting II with a grade of "C" or better.

MUSIC**MU7051 Introduction to Music**

A 1-semester course; 3 credit hours. A course in the appreciation of music of European, American and non Western cultures from classical to rock. Emphasis will be on listening skills, expansion of listening perception, and the elements of music. 3 class hours per week.

MU7052 Survey of Music:**Ancient to Modern Times**

A 1-semester course; 3 credit hours. A chronological survey of the music of Western civilization from ancient to modern times. Emphasis is on the historical evolution of musical styles. Students will study great works of music including some aspects of non-western music. Comparisons of music of the past will be made with music of the present. 3 class hours per week.

MU7061 Music Reading and Theory I

A 1-semester course; 3 credit hours. Music reading is introduced and developed through computer assisted instruction as well as lectures, discussions and listening. Students will study various styles of music such as rock, pop, jazz and classical. Students will be taught to read and notate pitch, rhythm and music symbols and will learn construction of major scales. 3 class hours per week.

MU7062 Music Reading and Theory II

A 1-semester course; 3 credit hours. Continuation of the content and methods used in Music Reading I with advanced exercise in reading and writing music. Development of knowledge about minor scales, intervals, harmony from the triad to the seventh chord, cadences, non-harmonic tones, chord progressions with harmonization of melody and music composition in the song form. 3 class hours per week.

Prerequisite: MU7061 Music Reading and Theory I or permission of the instructor.

MU7080 Piano I

A 1-semester course; 3 credit hours. Designed to provide students with a strong background in playing the piano. Students will receive training in such areas as technique, intervals, ear training, rhythm, fingering, basic harmony, performance, and ensemble playing. The course will introduce students to effective practice methods. They will also be introduced to piano literature in its historical perspective. Open to beginners or to those who want to improve on skills already acquired. 2 class hours and 2 lab hours per week.

MU7092 History of Jazz

A 1-semester course; 3 credit hours. A study of jazz – its definition, musical elements, history, performers, composers, styles and forms. Emphasis will be on understanding, appreciation and enjoyment of jazz through listening, explanation and insight into its cultural background. 3 class hours per week.

MU7097 Performance Ensemble I

A 1-semester course; 3 credit hours. Ensembles of all sizes in rock, folk, jazz and classical music organized for the purpose of gaining experience in preparing and performing music before audiences. Video tape and reel-to-reel recordings of class performances are made for study purposes. Students enrolling must be capable of performing on a musical instrument or as a singer. 1 class and 3 lab hours per week.

MU7098 Performance Ensemble II

A 1-semester course; 3 credit hours. Continuation of MU7097 Performance Ensemble I with the requirement of further progress and musical development. 1 class and 4 lab hours per week. **Prerequisite:** MU7097.

MU7100 Harmony I

A 1-semester course; 3 credit hours. An intensive study of key signature, modes, intervals and triads leading to the basic principles involved in part writing, as exemplified by the music of the Common Practice period. Systematic investigation of the problems involving the use of dissonance (non-harmonic tones) within a basic four-part format. Correlated outside work. 3 class hours per week. **Prerequisite:** MU7090, or the ability to read music and knowledge of the major scales.

MU7110 Chorus I

A 1-semester course; 3 credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. No prior singing experience necessary. Four class hours (2 hours sectional and 2 hours chorus rehearsal) per week.

MU7111 Chorus II

A 1-semester course; 3 credit hours. The Northern Essex Community College Chorus performs, in concert, music from pop to classical. Experience in singing, vocal-part learning and performance is developed. Auditions will take place for voice placement. 4 hours (2 hours sectional and 2 hours chorus rehearsal) per week. **Prerequisite:** Chorus I, MU7110. It is recommended that students take MU7090 Music Reading, Notation and Ear Training in conjunction with Chorus II.

MU7131 Music Technology: Sound

A 1-semester course; 3 credit hours. An understanding of music through experiential activities in manipulating sound using sampling processing with the Roland S50 Digital Sampler and related software on the Macintosh computer. The Sampling Process involves Digitally Recording a sound and manipulating it through techniques such as looping, envelope shaping and combining tones. Introduction to aspects of MIDI (Musical Instrument Digital Interface) is included. 3 class hours per week.

MU7132 Music Technology: Composition

A 1-semester course; 3 credit hours. The focus of this course is to create music composition using appropriate software programs on the Macintosh computer and the multi-tracking techniques of sequencing and recording. Students will also learn patch programming, synchronization and the use of the drum machine. The course will cover use and understanding of the Musical Instrument Digital Interface (MIDI) protocol. Students develop their own compositions at the level of their own ability and music knowledge. Selected compositions will be presented in a college concert. 3 class hours per week.

NURSING

NS6603 Nursing I

A 1-semester course; 8 credit hours. Designed to introduce the student to the role of the Associate Degree Nurse. The student learns the holistic approach to meeting the basic nursing needs of clients of all ages with common health problems in structured health care settings. Basic nursing skills are learned in the Health Education Support Center where competency is evaluated. This course introduces the nursing process and affords students the opportunity to apply it in the clinical setting. Other topics include the health-illness continuum, communication skills, nutrition, pharmacology, sterile technique and the peri-operative cycle. **Day Option Hours:** 4 class hours per week. Clinical meets 12 hours a week. Health Education Support Center meets 2 hours a week per semester. **Evening Option Hours:** Class meets 2 hours a week for two semesters. Clinical meets 12 hours every other week per semester. Health Education Support Center meets 1 hour a week per semester. **Prerequisite:** See appropriate program option description for specific prerequisites.

NS6604 Nursing II

A 1-semester course; 8 credit hours. Designed to teach the student to apply the holistic approach to the care of clients with problems of nutrition, elimination, respiration, mobility, regulation and psychosocial adaptation. The student will utilize the nursing process in a variety of structured settings to promote the health status of clients/families of all ages with selected physical and psychosocial problems. Emphasis is placed on the integration of pharmacotherapeutics and teaching/learning principles to plan comprehensive nursing care for clients with common health problems. **Day Option Hours:** Class meets 4 hours a week. Clinical meets 12 hours a week. Health Education Support Center meets 1 hour a week. **Evening Option/Twelve Month Option Hours:** Class meets 4 hours a week for 15-week Summer Session. Clinical meets 13 hours a week for 13-weeks and Health Education Support Center meets 1 hour a week for 13-weeks. **Prerequisite:** See appropriate program option description for specific prerequisites.

NS6653 Nursing III

A 1-semester course; 8 credit hours. Emphasizes a holistic approach in the care of the child-bearing family, clients with problems of sensorimotor and oxygen deficits which are respiratory, cardiac or hemopoietic in nature. Clients with maladaptive behavior are also included. The student will learn how to individualize the nursing process to promote an optimal level of wellness for clients and their families throughout the life cycle. **Day Option Hours:** Class meets 4 hours a week. Clinical meets 12 hours a week. **Evening Option Hours:** Class meets 2 hours a week for two semesters. Clinical meets 12 hours every other

week per semester. **Prerequisite:** See appropriate program option description for specific prerequisites.

NS6654 Nursing IV

A 1-semester course; 10 credit hours. Emphasizes holism in the care of clients with acute oxygenation, sensorineural, acute regulation and acute mobility problems. Application of crisis intervention theory is emphasized in the care of individuals and families at high-risk for abuse, addiction and other maladaptive behaviors. The student incorporates the nursing process to promote the maximum health potential of critically ill clients and their families. Management skills necessary for the care of individuals or groups of clients with complex health problems are taught. **Day Option Hours:** Class meets 5 hours a week. Clinical meets 15 hours a week. **Evening Option Hours:** Class meets 4 hours a week for 10-week Summer Session. Clinical meets 12 hours a week for 10-week Summer Session. Class meets 2-1/2 hours a week and Clinical meets 15 hours every other week in the Fall semester. **Prerequisite:** See appropriate program option description for specific prerequisites.

OFFICE ADMINISTRATION

SL6661 Office Administration I

A 1-semester course; 3 credit hours. Required of all students in the Office Technology Department. Theory and problems in records management as a vital administrative support service, word processing from the viewpoint of copying and duplicating, written communications, and transmittal services. Concentration is placed upon the approach to job satisfaction through the systematic analysis of employment selection and the intensive concentration on the development of those traits and attitudes required of the highly trained professional. 3 class hours per week. **Prerequisite:** Keyboarding I.

SL6665 Essentials of Office Management

A 1-semester course; 3 credit hours. Development of judgments and insights needed by the executive secretary to function on the administrative or supervisory level. Analysis of long-range office projects, determination of work priorities, organization of research information, and the place of human relations in the supervisory process. A case study approach to the problems of office supervision. 3 class hours per week.

SL6673 Word Processing I

A 1-semester course; 3 credit hours. Designed to give specialized preparation to students planning a career in a variety of fields that utilize word processing. Students will learn the basic operational skills and procedures of word processing using a state of the art software package. Lab work outside of class hours will be required to complete assignments. 3 class hours per week. **Prerequisite:** Skill in the operation of typewriter and formatting: TW6641 or equivalent.

SL6674 Word Processing II

A 1-semester course; 3 credit hours. Designed to develop the word processing business skills beyond those covered in Word Processing I. Using word processing software, selected software utilities and business applications, the student will learn how to compose and edit business documentation, perform file management practices and work with desktop publishing features. Lab work outside of class hours will be required to complete assignments. 3 class hours per week. **Prerequisite:** SL6673 Word Processing I.

SL6682 Business Communications

A 1-semester course; 3 credit hours. Development and refinement of communication skills necessary for satisfactory job performance in business, particularly on the managerial and administrative levels. The course emphasizes various types of business letter writing, reports, memoranda, and business and legal forms common to the operation of the modern business office. The preparation of business documents will be coordinated with the concepts of electronic word processing/information management. 3 class hours per week.

OFFICE TECHNIQUES**SK6653 Machine Transcription**

A 1-semester course; 3 credit hours. Development of high-level skills in the use of transcription equipment. Emphasis is placed on the use of business, professional, and technical materials. Development of vocational transcription rates. 4 class hours per week. **Prerequisite:** TW6641.

PHILOSOPHY**PH0001 Early & Medieval Philosophy**

A 1-semester course; 3 credit hours. An adventure in the history of ideas. A study of the rise and evolution of western philosophy from the early Greeks to the Renaissance. Emphasis on Plato, Aristotle, Augustine and Aquinas. 3 class hours per week.

PH0002 Modern Philosophy

A 1-semester course; 3 credit hours. A further adventure in the history of ideas. A study of the progress of western philosophy from the Renaissance to the twentieth century. Special emphasis on Descartes, Locke, Hegel, Nietzsche, Marx and Sartre. 3 class hours per week.

PH0201 Bioethics

A 1-semester course; 3 credit hours. An examination of the interrelationships between philosophy and problems arising from advances in modern biology, including the ethical implications of the problems of population control, resource allocation and biomedicine. This is a discussion course for those students who enjoy dealing with ideas. There are no prerequisites, but a

general background in the sciences or philosophy may make the ideas presented in the course more meaningful. 3 class hours per week.

PH1101 Introduction to Philosophy

A 1-semester course; 3 credit hours. The aims, nature and problems of philosophy, with emphasis upon theory of knowledge, metaphysics, ethics and philosophy of religion. 3 class hours per week.

PH1102 Issues in Philosophy

A 1-semester course; 3 credit hours. A critical analysis of the philosophic issues concerning human nature, freedom and determinism, esthetics, social and political philosophy and philosophy of history. **Note:** Not a sequential course. 3 class hours per week.

PH1141 Ethics

A 1-semester course; 3 credit hours. A study of representative ethical systems and how they deal with moral issues. Attention will be given to the meanings of basic terms and to the application of ethics to major personal and social problems of our times such as those in law, medicine, international issues, sexuality and lifestyle. 3 class hours per week.

PH1150 Practical Logic

A 1-semester course; 3 credit hours. This course is designed to introduce the student to the basics of reasoning, argumentation, and critical thinking. Included are criteria of sound reasoning, rational assessment of arguments, common fallacies, and basic informal logic. 3 class hours per week.

PH1151 Introduction to Logic

A 1-semester course; 3 credit hours. Course will inquire into the nature of critical thinking. Such topics as the functions of language, experimental truth and logical validity, the structure of deductive arguments, and the basic inductive methods will be considered. 3 class hours per week.

PHYSICAL/OUTDOOR EDUCATION & LEISURE STUDIES**PE1008 Canoeing**

A 1/2-semester course; 1 credit hour. The course follows the American Red Cross Small Craft certificate program for canoeing. Some of the skills include: paddling strokes, canoe rescue, artificial respiration and a trip. Students successfully completing the course will receive the American Red Cross Canoeing Certificate. All canoeing equipment is provided. 3 class hours per week.

PE1011 Fly Fishing & Fly Tying

A 1-semester course; 2 credit hours. Cost, selection and care of various types of fishing equipment. Fundamental skills and techniques. Students will be taken off campus for practical application of skills acquired. 3 class hours per week.

PE1014 Golf

A 1/2-semester course; 1 credit hour. The fundamentals of golf; grip, stance, rules, swing and etiquette. Practice will be given with long and short irons, drives and putters. 3 class hours per week.

PE1015 Golf Intermediate

A 1/2-semester course; 1 credit hours Designed for students seeking further skill and knowledge beyond the beginning level. The majority of instruction will be held on the golf course. 3 class hours per week.

PE1031 Weight Training

A 1/2-semester course; 1 credit hour. Basic principles and skills of weight training. Emphasis on cardiovascular and flexibility activities. 3 class hours per week.

PE1038 Cross-Country Skiing

A 1/2-semester course; 1 credit hour. This course will include the skills necessary for skiing uphill, downhill, striding on flat terrain, poling and different types of skiing equipment. Class time will be spent outdoors skiing and practicing skills. All skiing equipment is provided. 3 class hours per week.

PE1041 Yoga

A 1-semester course; 2 credit hours. This is a course in self-realization covering Hatha exercises and breathing, nutrition, relaxing, concentration and Eastern philosophy. Classes will consist of practice and discussion aimed at improving life through the wisdom of this timeless discipline. 1 class hour and 2 lab hours per week.

PE1042 Jogging

A 1/2-semester course; 1 credit hour. This course will elaborate on one of the most simple but effective forms of conditioning. Class time will cover how to warm up, train and pace yourself so as to enjoy the pleasant overall exhilaration this activity promotes. 3 class hours per week.

PE1044 Cycling

A half-semester course; 1 credit hour. This course will cover body conditioning, care of the bicycle and knowledge necessary to enjoy this fast growing sport. Time will be spent in touring and following pre-mapped itineraries. 3 class hours per week.

PE1050 Racquetball: A 1/2-semester course; 1 credit hour. An introductory course to racquetball. Includes the basic strokes, footwork, rules, regulations and strategy. 3 class hours per week.

PE1063 Jazz I

A 1/2-semester course; 1 credit hour. Basic training in a variety of jazz styles. The student will develop specialized technique through the barre and basic jazz movements which will be the focus of this course. 3 class hours per week.

PE1064 Jazz II

A 1/2-semester course; 1 credit hour. This course will build on basic jazz terminology covered in Jazz I and progress to more advanced barre and combinations. 3 class hours per week. **Prerequisite:** Jazz I.

PE1070 Ballet I

A one-semester course; 2 credit hours. Instruction in the basic skills of ballet technique. The combinations of movements from the classical ballet vocabulary will emphasize proper alignment, strength, speed, endurance, and flexibility. The course will also include an overview of the history of ballet. 1 class hour; 2 lab hours per week.

PE1071 Ballet II

A one-semester course; 2 credit hours. This class will review basic ballet techniques and progress to refinement of technique through more advanced work. The combinations of movements from the classical ballet vocabulary will continue to emphasize proper alignment, strength, endurance, speed, and flexibility. 1 class hour and 2 lab hours per week. **Prerequisite:** Ballet I or permission of instructor.

PE2001 Introduction to Physical Education

A 1-semester course; 3 credit hours. A career-oriented course designed to introduce new students to the profession of physical education, and to make them aware of career alternatives within the field of physical education and to familiarize them with the requirements and professional preparation. 3 class hours per week.

PE2010 Modern Dance I

A 1-semester course; 2 credit hours. A study of the fundamentals of modern dance technique. Emphasis is on cultivating a sound basic technique as well as self-expression through movement. The beginnings of modern dance will be examined with emphasis on the four pioneers: St. Denis, Shawn, Graham, Humphrey, who continued the legacy of Duncan. 1 class hour and 2 lab hours per week.

PE2011 Modern Dance II

A 1-semester course; 2 credit hours. Utilizing basic dance skills from Modern Dance I, the student learns advanced techniques and skills to attain proficiency. While the emphasis is on sound technique, time is also reserved for creative activity. A study of the history of modern dance will continue with emphasis on dance figures following the four pioneer era. 1 class hour and 2 lab hours per week.

PE2012 First Aid & CPR

A 1-semester course; 3 credit hours. This course prepares the student to deal with most types of medical emergencies. Classes include simulated disaster, ambulance tour, practical skills, knowledge of the National Safety Council First Aid and CPR book. When

requirements are met, a standard first aid and/or CPR certification are earned from the National Safety Council's Green Cross. 3 class hours per week.

PE2020 Foundations of Health & Fitness

A 1-semester course; 3 credit hours. A course designed as an individual health improvement and maintenance program, focusing on the concepts of wellness, positive lifestyles, individual health and fitness profiles, graded and controlled exercise, and monitoring and recording of certain body functions. Provides students with a series of analyses. The course merges fitness/exercise, nutrition/weight control, and stress management into a single program to help students develop an understanding of how to adapt their lifestyle to achieve a better quality of life. 3 class hours per week.

PE2296 Aerobics in Theory & Practice

A 1-semester course; 2 credit hours. An exercise and activity class emphasizing the physiological components of aerobic exercise and its effect on the cardiorespiratory system. Classes consist of various types of aerobic workouts and laboratory activities. Students of all levels of fitness will profit from participation and gradually improve. 1 class hour; 2 lab hours per week.

PHYSICS

PI5503 Introductory Physics

A 1-semester course; 4 credit hours. This course is intended for non-science majors. It is designed to cover concepts in physics which are necessary for a basic understanding of our twentieth century physical world. The treatment will be largely non-mathematical and will cover topics such as motion, energy, gravitation, and the structure of matter. 3 class hours and 2 lab hours per week.

PI5504 Introductory Physics II

A 1-semester course; 4 credit hours. A continuation of PI5503 with the same objectives, but focuses upon other interesting topics such as heat, light, radiation and relativity. 3 class hours and 2 lab hours per week.

Prerequisite: PI5503

PI5621 Applied Physics I

A 1-semester course; 4 credit hours. This course is designed for the student in science, electronic technology, or a health profession such as physical therapy. Subject matter covered will include: principles of mechanics, concurrent forces, nonconcurrent forces, friction, elasticity, motion, forces and motion, work and energy, power, impulse and momentum, and simple harmonic motion. A non-calculus approach. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5621 or equivalent.

PI5622 Applied Physics II

A 1-semester course; 4 credit hours. A continuation of PI5621. Subject matter covered will include: fluid mechanics, sound, Archimedes principle, Bernoulli's equation, heat and the laws of thermodynamics, properties of gases, electricity and magnetism, wave motion, reflection, refraction, and lenses. A non-calculus approach. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5621 and MA5621 or equivalent.

PI5623 Engineering Physics I

A 1-semester course; 4 credit hours. To be taken concurrently with MA5692. The principles of mechanics, including composition and resolution of vectors, statics, moments, rectilinear motion, Newton's second law, motion of a projectile, work and energy, impulse and momentum, circular motion, rotational kinematics and dynamics, elasticity, harmonic motion. 3 class hours and 3 lab hours per week. **Prerequisite:** MA5690 or equivalent.

PI5624 Engineering Physics II

A 1-semester course; 4 credit hours. To be taken concurrently with MA5693. Heat, sound and optics, including the following: thermometry, quantity of heat, change of state, work and heat; heat transfer, thermal properties of matter, the first and second law of thermodynamics, wave motion, vibrating systems; acoustical phenomena; the nature and propagation of light; reflection and refraction at a single surface, lenses and lens aberration; optical instruments; illumination, color, and polarized light. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5623 and MA5692.

PI5651 Engineering Physics III

A 1-semester course; 4 credit hours. Principles of electricity and magnetism, Coulomb's Law, potential, D.C. Circuits, the magnetic field of a current and of a moving charge, induced electromotive force, capacitance and inductance, magnetic properties of matter. 3 class hours and 3 lab hours per week. **Prerequisite:** PI5623, PI5624 and MA5693 (MA5693 may be taken concurrently).

PI6511 Radiologic Science I

A 1-semester course; 3 credit hours. Designed to examine the fundamentals of physical principles of electrical and x-ray physics and the operational study of x-ray equipment and auxiliary devices. The course will examine fundamental and derived units, mechanics, matter, magnetism and electricity, electromagnetism, generators, motors and transformers. 3 class hours per week. **Prerequisite:** Enrollment in Radiologic Technology program or permission of instructor.

PI6512 Radiologic Science II

A 1-semester course; 3 credit hours. Emphasis will be placed on the formation of ionizing radiation by further analysis of x-ray and other types of circuits, tubes, etc., laws of motion, thermal considerations, optics and lens systems and radioactivity. 3 class hours per week. **Prerequisite:** Enrollment in Radiologic Technology Program or permission of the instructor.

PRACTICAL NURSING**PN0101 Practical Nursing I**

A 1-semester course; 10 credit hours. This course focuses on the fundamental skills and principles of administering basic nursing care to clients in geriatric clinical settings. Emphasis is placed on developing assessment skills needed to recognize and meet basic nursing needs; providing a safe comfortable physical environment; meeting the personal care needs common to all clients in simple nursing situations. Introduction to general surgical care, drug administration, proper communication techniques, and legal and ethical aspects of nursing care are included. The clinical component is correlated with the didactic, utilizing non-acute community settings. 8 class hours and 13 clinical hours per week. **Prerequisite:** Acceptance into the Practical Nursing Program.

PN0201 Practical Nursing II

A 1-semester course; 10 credit hours. This course introduces the student to the role of the Practical Nurse in the health care delivery to clients in all stages of growth and development, focusing on common medical surgical problems and the related pharmacologic and nutritional protocols in the therapeutic/restorative plan of care. In each unit the unique aspects of the pediatric, adult and geriatric client will be identified. The clinical component, utilizing adult and geriatric medical-surgical and pediatric units, is designed to correlate the didactic with the nursing care practice. 8 class hours and 13 clinical hours per week. **Prerequisite:** Completion of Practical Nursing I with a grade of C or better; PS1210 Developmental Psychology I and SC5503 Integrated Science I.

PN0301 Practical Nursing III

A 10-week course; 8 credit hours. This course provides the basic nursing skills necessary for an entry level Graduate Practical Nurse position. Proceeding from simple to complex, normal to abnormal, family-centered nursing care concepts and skills are developed in the obstetrical clinical settings. In various medical-surgical clinical settings, emphasis is placed on developing self initiative and graduate level skills and responsibilities. Included is further development of the nursing process as it is reflected in all aspects of health care and the nursing implications of the administration of common medications. 7-1/2 class hours

and 21 clinical hours per week. **Prerequisite:** Completion of Practical Nursing II with a grade of C or better; SC5504 Integrated Science II and PS1211 Developmental Psychology II.

PN0310 Vocational Trends in Practical Nursing

A 10-week course; 1 credit hours. This course explores the social, ethical and professional issues that affect nursing and influence nursing practices. A historical overview of nursing and practical nursing is presented; however, emphasis is placed on current trends in nursing education and practice and their impact on the practical nurse. 1-1/2 class hours per week.

PSYCHOLOGY**PS1101 Introduction to Psychology**

A 1-semester course; 3 credit hours. A survey course covering major topics and theorists in the field. The social, emotional, motivational, sensory and cognitive realms of behavior will be studied with a primary emphasis on normal developmental trends and patterns. Theorists considered may include Maslow, Freud, Piaget, Erikson and Skinner among others. 3 class hours per week.

PS1105 Foundations of Early Childhood

A 1-semester course; 3 credit hours. This is a basic introductory course designed for those currently working with young children. The process of child growth and development from the prenatal period through early childhood and the societal context in which it occurs. The practical application of developmental theories will be emphasized as will the uniqueness of rates and patterns of growth with implications for guidance of children at home, school, and other peer-group contexts. May not be offered every semester. 3 class hours per week. This course meets the Office for Children Category A: Child Growth and Development.

PS1151 Child Psychology

A 1-semester course; 3 credit hours. Development from conception through middle childhood will be explored. An overview of cognitive, linguistic, perceptual, motor, social and personality development will be presented with emphasis on the preschool years. Major developmental theories will be used to explore the contribution of environment, heredity and social factors to the developing child. Strategies for meeting the developmental needs of children will be included. May not be offered every semester. 3 class hours per week. This course meets the Office for Children Category A: Child Growth and Development. **Prerequisite:** Introduction to Psychology or permission of the instructor.

PS1152 Adolescent Psychology

A 1-semester course; 3 credit hours. A study of adolescent development from the point of view of both the adolescent and the adult. Basic theories of development will be examined with an emphasis on social, emotional, physical and cognitive domains. Communication and problem solving techniques appropriate to this stage will be considered in general and with reference to specific potential conflicts. May not be offered every semester. 3 class hours per week.

PS1154 Psychology of Personality

A 1-semester course; 3 credit hours. This course introduces students to a variety of theoretical approaches to the understanding of character and personality. It includes psychoanalytic, learning, humanistic, transpersonal and existential theories. May not be offered every semester. 3 class hours per week.

PS1210 Developmental Psychology I: Childhood and Adolescence

A 1-semester course; three credit hours. This course is designed to help students understand development from conception to adolescence. Patterns and sequences of physical, cognitive, social and psychological development will be explored. Specific problems which occur during this part of the life cycle will be discussed as well as the role that heredity, environment and social factors play in creating human differences. 3 class hours per week. **Prerequisite:** Introduction to Psychology.

PS1211 Developmental Psychology II: Adulthood and Aging

A 1-semester course; three credit hours. This course will examine physical, cognitive, emotional, social and personality development from young adulthood to old age. Its focus will include the interaction of biological, psychological and socio-cultural factors and their effect on growth and development during the adult years and later life. Also, adjustment processes from varying perspectives, and socio-cultural attitudes affecting successful aging, will be examined. 3 class hours per week. **Prerequisite:** Introduction to Psychology.

PS1351 Social Psychology

A 1-semester course; 3 credit hours. A discussion of the fact that human nature is social and the implications of that fact: principally the effect of others upon one's mind and self imagery, and the complex social coordination that it allows. Special attention to individuation, the social validation of meaning and perception, symbols and symbolic interaction. May not be offered every semester. 3 class hours per week. **Prerequisite:** Introduction to Psychology or Introduction to Sociology.

PS1354 Human Relations

A 1-semester course; 3 credit hours. A group experience providing students with an opportunity to study and experience interpersonal relationships in a small group in which the focus is on interpersonal communication. Limit 20 students. May not be offered every semester. 3 class hours per week.

PS1651 Organizational Behavior

A 1-semester course; 3 credit hours. An introductory course in the patterns and principles of human behavior in organizations. These will include such areas as organizational structure, motivation, decision making, managerial style, conflict and communication. A variety of organizational settings will be explored. May not be offered every semester. 3 class hours per week.

PS1751 Abnormal Psychology

A 1-semester course; 3 credit hours. The study of the classification, etiology, treatment and prevention of behavioral and emotional disorders. Includes the study of stress disorders, anxiety disorders, personality disorders and psychoses. 3 class hours per week. **Prerequisite:** Introduction to Psychology or permission of the instructor.

PS2112 Problems of Early Childhood

A 1-semester course; 3 credit hours. A sociological-psychological study of factors leading to educational success for the young child defined as having special needs because of intellectual, cultural, social and emotional factors. Federal and State legislation dealing with the education of special needs children will be introduced. This course includes the role of the family and cultural background as they relate to educational success. A theoretical framework of crisis and loss will be presented. May not be offered every semester. 3 class hours per week. **Prerequisite:** Introduction to Psychology or permission of the instructor.

RADIOLOGIC TECHNOLOGY**RT6505 Radiologic Technology:****An Introduction**

A 1-semester course; 3 credit hours. Introduction to departmental administration; medical terminology; medical ethics; basic radiation protection; radiographic film, film holders, darkroom procedures; basic nursing procedures; infection control, universal precautions, isolation; and interaction with terminally ill patients. The course is divided into two separate modules. A four week course divided into two concurrent modules, A and B. Module A consists of 30 class hours and Module B includes 24 hours per week of clinical practicum. **Prerequisite:** Enrollment in the Radiologic Technology Program.

RT6515 Clinical Practicum I

A 1-semester course; 2 credit hours. A concurrent aspect of Radiologic Technology I. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 16 hours per week. **Prerequisite:** RT6505 Radiologic Technology: An Introduction.

RT6521 Radiologic Technology I

A 1-semester course; 4 credit hours. This course will offer a comprehensive and detailed study of basic principles of radiographic exposure, preliminary radiographic positioning and radiographic osteology. Emphasis will be placed on the understanding of radiologic technology and its place in the clinical affiliation. 3 class hours and 2 lab hours per week. **Prerequisites:** RT6505 Radiologic Technology: An Introduction; demonstrated algebra competence at the level of Intermediate Algebra or better.

RT6522 Radiologic Technology II

A 1-semester course; 4 credit hours. This course will continue basic positioning, radiographic exposure and their interrelated principles. An evaluation and study of the use of contrast media will also be included. Emphasis will be placed on Radiologic Technology and its place in the clinical affiliation. 3 class hours and 2 lab hours per week **Prerequisite:** RT6521 Radiologic Technology I.

RT6523 Radiologic Internship

A 10-week Summer Session course; 2 credit hours. Students will be introduced to Special Diagnostic Exams, Portable and O.R. Radiography. Students will attend lectures and apply their knowledge and skills at the Clinical Affiliate. Clinical internship allows the student continued experience and reinforcement of examinations learned to date. **Prerequisite:** RT6525 Clinical Practicum II and RT6529 Radiologic Technology II.

RT6525 Clinical Practicum II

A 1-semester course; 2 credit hours. A concurrent aspect of Radiologic Technology II. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 16 hours per week. **Prerequisite:** RT6515 Clinical Practicum I and RT6529 Radiologic Technology II concurrently.

RT6531 Radiologic Technology III

A 1-semester course; 3 credit hours. This course will introduce the student to various imaging techniques and equipment. The student will also be introduced to the evaluation of radiographic equipment to assure consistency in the production of quality images. Tests and procedures used in evaluating radiographic equipment will be included. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6533 Advanced Radiographic Positioning

A 1-semester course; 3 credit hours. The student will study alternate methods of investigating the skeletal system for trauma and disease as they relate to Radiologic Procedures. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6535 Clinical Practicum III

A 1-semester course; 3 credit hours. A concurrent aspect of Radiologic Technology III, Advanced Radiographic Positioning. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. Students are required to perform supervised clinical activity and laboratory demonstration for a total of 24 hours per week. **Prerequisites:** RT6533 Advanced Radiographic Positioning and RT6531 Radiologic Technology III concurrently.

RT6539 Special Radiologic Procedures

A 1-semester course; 3 credit hours. The student will study special diagnostic radiographic procedures and the special equipment involved. 3 class hours per week. **Prerequisite:** RT6529 Radiologic Technology II.

RT6541 Computers in Radiography

A 1-semester course; 3 credit hours. This course will introduce the student to fundamental principles of computer technology, computer concepts and related terminology. Computerized tomography as a diagnostic tool will be discussed. CT equipment and its application will be investigated and basic CT examinations with related cross sectional anatomy will also be studied. 2 class hours and 2 lab hours per week. **Prerequisite:** RT6531 Radiologic Technology III

RT6545 Clinical Practicum IV

A 1-semester course; 3 credit hours. A concurrent aspect of Computers in Radiography, Radiobiology and Special Radiologic Procedures as well as a continual aspect of Radiologic Technology III, Advanced Radiographic Positioning and Fundamentals of Disease Process. The student will apply under direct supervision at the affiliate hospital principles learned in the classroom. Student assignments will be under the direction of the college clinical coordinator and the liaison instructor at the affiliate hospital. Students are

required to perform supervised clinical activity and laboratory demonstration for a total of 24 hours per week. **Prerequisites:** RT6535 Clinical Practicum III and RT6541 Computers in Radiography, RT6549 Radiobiology and RT6539 Special Radiologic Procedures concurrently.

RT6549 Radiobiology

A 1-semester course; 3 credit hours. The student will study radiation quantities and units of measurement, maximum permissible dose requirements, the biological effects of radiation, genetic and somatic effects and principles and methods of radiation protection. 3 class hours per week. **Prerequisite:** RT6531 Radiologic Technology III.

RELIGION

RE1101 World Religions

A 1-semester course; 3 credit hours. A comparative study of the major religions of the world, including Hinduism, Buddhism, Taoism, Confucianism, Sikhism, Judaism, Christianity and Islam. 3 class hours per week.

RESPIRATORY CARE

RS6614 Introduction to Respiratory Care

A 1-semester course; 7 credit hours. This course provides an introduction and orientation to the field of respiratory care. Major topics include cardiopulmonary anatomy and physiology, medical gas and oxygen therapy; humidity and aerosol therapy; basic patient assessment; an introduction to blood gases and acid-base balance; chest physiotherapy; and finally sterilization and infection control. Physician in-pat will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture material. Respiratory Practicum I is a co-requisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. 6 class hours, 2 lab hours per week. **Corequisite:** RS6615 Respiratory Practicum I.

RS6615 Respiratory Practicum I

A 1-semester course; 2 credit hours. This practicum in a parallel fashion, utilizes knowledge and skills presented in RS6614 lecture and lab, and applies them to the hospital setting. This practicum includes an orientation to the hospital and an introduction to basic respiratory therapy procedures. Also included are CPR instruction, certification and an initial preclinical orientation period. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. 8 clinical practicum hours a week. **Co-requisite:** RS6614 Introduction to Respiratory Care.

RS6624 Respiratory Procedures & Assessment

A 1-semester course; 7 credit hours. This course presents sections in cardiopulmonary pathophysiology, pulmonary disease, basic pulmonary function testing, clinical application of blood gas analysis, and an introduction to positive pressure breathing, IPPB, mechanical ventilators and emergency respiratory care. Physician input will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture materials. Respiratory Practicum II is a corequisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. 6 class, 2 lab hours per week. **Corequisite:** RS6625 Respiratory Practicum II. **Prerequisite:** RS6614 and RS6615 with a grade of C or better

RS6625 Respiratory Practicum II

A 1-semester course; 4 credit hours. This practicum in a parallel fashion utilizes knowledge and skills presented in RS6624 lecture and lab and applies them to the hospital setting. This practicum continues to build on competencies acquired during the first semester. Emphasis is placed on the day to day therapeutic respiratory procedures. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. 16 clinical practicum hours a week. **Corequisite:** RS6624 Respiratory Procedures and Assessment. **Prerequisite:** RS6614 and RS6615 with a grade of C or better.

RS6629 Respiratory Pharmacology

A 1-semester course; 2 credit hours. This course will present the principles of general pharmacology and action of the major respiratory drugs. In addition, the anatomy and physiology of the autonomic nervous system and its role in drug action will be covered. Drugs will be studied as groups and individually for site and mechanism of action, contraindications and side effects, clinical uses and routes of administration. 2 class hours per week. **Prerequisite:** RS6614 and RS6615.

RS6644 Ventilator Management and Pulmonary Function Testing

A 1-semester course; 7 credit hours. This course covers areas of airway and ventilator management, advanced pulmonary function testing, an introduction to neonatal and pediatric respiratory care, cardiopulmonary rehabilitation, and analysis and decision making skills. Physician input will be provided through supplementary lectures from the program's medical director. The lab component covers equipment and procedural skills related to lecture material. Respiratory Practicum III is a corequisite and parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. 6 class hours, 2 lab hours per week. **Corequisite:** RS6645 Respiratory Practicum III. **Prerequisite:** RS6624 and RS6625 with a grade of C or better.

RS6645 Respiratory Practicum III

A 1-semester course; 4 credit hours. This practicum in a parallel fashion, uses knowledge and skills presented in RS6644 lecture and lab and applies them to the hospital setting. This practicum continues to build on competencies acquired during previous semesters. Emphasis is placed on airway care, ventilator management and a rotation through the pulmonary function lab. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. 16 clinical practicum hours a week. **Corequisite:** RS6644 Ventilator Management & PFTS. **Prerequisite:** RS6624 and RS6625 with a grade of C or better.

RS6654 Respiratory Intensive Care

A 1-semester course; 6 credit hours. This course will provide units on electrocardiography, cardiac drugs, cardiopulmonary pathology and hemodynamic monitoring. Also included are units on critical care respiratory therapy, respiratory related trauma, neuromuscular disease, cardiopulmonary rehabilitation, and analysis and decision making skills. Students will have the opportunity to take practice registry and clinical simulation exams. Physician input will be provided through supplementary lectures from the program's medical director. Respiratory Practicum IV parallels this course giving the student clinical experience and an opportunity for the application of theoretical principles and content material presented in this course. 6 class hours per week. **Corequisite:** RS6655 Respiratory Practicum IV. **Prerequisite:** RS6644 and RS6645 with a grade of C or better.

RS6655 Respiratory Practicum IV

A 1-semester course; 4 credit hours. This practicum, in a parallel fashion, utilizes theoretical knowledge presented in RS6654 lecture and applies it to the hospital setting. This practicum continues to build on competencies acquired during previous semesters. Emphasis

is placed on respiratory intensive care. Speciality rotations are established through a neonatal/pediatric facility and a homecare agency. Presented at one of the program's hospital affiliates, this practicum is administered jointly by a clinical instructor and the program's clinical coordinator. 16 clinical practicum hours per week. **Corequisite:** RS6654 Respiratory Intensive Care. **Prerequisite:** RS6644 and RS6645 with a grade of C or better.

RS6659 Respiratory Care Seminar

A 1-semester course; 2 credit hours. This course integrates the psychology of patient care, death and dying, interpersonal relations, the principles of management, use of computers, and other subjects related to employment in the hospital environment. Since a seminar is defined as a group of advanced students studying under a professor, each doing research and sharing the results of that research with each other, this course relies heavily on student participation. 2 class hours per week. **Prerequisite:** RS6644 and RS6645.

SCIENCE

SC0000 Research Topic in Science

An open-end investigatory course with credit varying from one to three credit hours. Designed for the advanced student who is interested in a career in the sciences. The student will work on a topic of his choice under the direction of one faculty member. Interested students should obtain a list of faculty members showing their areas of specific interest and then consult with the faculty member of his choice before registering for the course. Limited to one semester. This course does not fulfill the science requirement for graduation. **Prerequisite:** Permission of the instructor.

SC5503 Integrated Science I

A 1-semester course; 3 credit hours. This course provides an introduction to the study of the structure and functioning of the human body. Related topics in chemistry, physics and disease are integrated with the appropriate body systems covered. An introduction to microbiology is also included. 3 class hours per week.

SC5504 Integrated Science II

A 1-semester course; 3 credit hours. Continuation of SC5503 covering the body systems not studied in SC5503. Related topics in chemistry, physics and disease are integrated where appropriate. 3 class hours per week.

SC5011 Energy, Environment and Our Future

A 1-semester course; 3 credit hours. Human population and associated energy demands have increased in the last century. This course examines the impact of this development from the points of view of food, technology and urbanization. The study of the progressive deterioration of human balance with the rest of nature shows the way psychological attitudes have to change.

This course questions whether the prevailing attitudes and ever increasing energy demands and pollution can continue without destroying the delicate ecological balance that has taken so long to evolve. 3 class hours per week.

SC5514 Plants and Civilization

A 1-semester course; 3 credit hours. Dependence of the human race on plants and plant products. How specific plants produce the food, fuel, beverages, and medicinal products, and the resultant impact on the development of civilization. 3 class hours per week.

SHORTHAND/DICTATION/ TRANSCRIPTION

SH6601 Speedwriting I

A 1-semester course; 3 credit hours. Speedwriting I is an entry level alphabetic system of shorthand designed to enable the student to master shorthand in a short time. This course includes principles, brief forms, abbreviations as well as developing the skill of taking dictation. Study of the non-shorthand elements of spelling and punctuation. 3 class hours per week

SH6602 Speedwriting II

A 1-semester course; 3 credit hours. Designed for students who have completed the principles course, Speedwriting I. This course will introduce dictation and transcription techniques. The study of non-shorthand elements of spelling and punctuation will continue. 3 class hours per week. **Prerequisite:** SH6601 Speedwriting I with a grade of C or better, or equivalent.

SIGN LANGUAGE INTERPRETER

IN1010 Introduction to the Deaf Community

A 1-semester course; 3 credit hours. Introductory course examining various aspects of the deaf community. Addresses the value of: American Sign Language and the culture it reflects, various professions within the deaf community, legislation impacting deaf people, an overview of educational approaches/controversies and linguistic variables within the deaf community, activities and current events relating to the deaf population, and lastly, the hearing mechanism, hearing disorders and audiological assessments and their ramifications within the deaf community. 3 class hours per week.

IN1030 Introduction to the Interpreting Field

A 1-semester course; 3 credit hours. Provides general information about the field of interpreting, stressing the importance of a professional attitude toward interpreting, especially as developed through observance of ethical standards. Additionally, rudimentary interpreting skills will be introduced through laboratory exercises. Understanding these aspects of interpreting is enhanced through participation in the

course Introduction to Practicum. 2 class hours and 2 lab hours per week. **Prerequisite:** American Sign Language I with a grade of "C" or higher and permission of the coordinator.

IN1041 Introduction to Practicum

A 1-semester course; 2 credit hours. Emphasizes the important aspects of professional interpreting (e.g., physical factors, mode of communication employed, professional attitude and approach to assignment, etc.). The field experience will provide both the opportunity to observe the material discussed in the classroom and to participate in actual interpreting situations. 1 classroom seminar plus 4 field hours per week. **Prerequisite:** American Sign Language I with a grade of C or higher, simultaneous enrollment in American Sign Language II and Introduction to the Interpreting Field or with coordinator's approval.

IN2029 Interpreting

A 1-semester course; 4 credit hours. Designed to develop a broad base of competency and performance skills in transliterating and interpreting. Emphasis is on an in-depth study of the principles of interpreting and their incorporation into specific interpreting situations. 3 class hours and 3 lab hours per week. **Prerequisite:** Introduction to the Interpreting Field, American Sign Language II with a grade of C or better, and simultaneous enrollment in American Sign Language III or with coordinator's approval.

IN2033 Advanced Interpreting

A 1-semester course; 4 credit hours. Involves further emphasis on developing competency and skills in transliterating and interpreting. A variety of learning activities aimed at strengthening interpreting techniques are conducted. 3 class hours and 3 lab hours per week. **Prerequisite:** Introduction to the Interpreting Field, Interpreting, and American Sign Language III with a grade of C or better.

IN2039 Practicum I

A 1-semester course; 3 credit hours. Emphasizes the means for successful performance in professional interpreting situations. Field experience allows students to put theory into practice by providing opportunities for participation in various interpreting settings. 1 class hour plus 8 field hours per week. **Prerequisite:** Introduction to Practicum with a grade of C, simultaneous enrollment in Interpreting and American Sign Language III and coordinator's approval.

IN2041 Practicum II

A 1-semester course; 3 credit hours. Provides advanced students with the opportunity to function in actual interpreting situations with professional advice and support. This supervised work experience is to be the final phase of preparation prior to entry into the field of professional interpreting. 1 class hour plus 8 field hours per week. **Prerequisite:** Practicum I, American Sign Language III and Interpreting with a grade of C or higher, simultaneous enrollment in Advanced Interpreting and coordinator's approval.

SOCIOLOGY**S01001 Multicultural Perspectives in Health Care I**

A 1-semester course; 3 credit hours. This course focuses on the impact of culture in shaping the American and selected target populations perspectives on health care. Attitudes, beliefs, and values held by the healthcare provider and healthcare receiver will be investigated, particularly as they relate to the effectiveness of the medical interpreter's role. 3 class hours per week. Enrollment restricted to students in Health Programs.

S02001 Multicultural Perspectives in Health Care II

A 1-semester course; 3 credit hours. This course focuses on the effective application of concepts associated with both culture and Health care system. Students will demonstrate the skills of cultural awareness in the delivery of culturally sensitive care. 3 class hours per week. Enrollment restricted to students in Health Programs.

S03321 Introduction to Sociology

A 1-semester course; 3 credit hours. This course provides the student with an understanding of the theories, methods and approaches to the study of human social interactions. It emphasizes the founding and evolution of sociological thought and the influences of social institutions and cultural factors on human behavior. Among subjects covered are: culture, groups, socialization, deviance and social inequalities. 3 class hours per week.

S03324 Cultural Anthropology

A 1-semester course; 3 credit hours. An introduction to the diversity of contemporary human cultures. A cross-cultural perspective will be used to examine the subsistence patterns, marriage, kinship, political organization, religion and philosophy of selected non-European peoples. Theoretical frameworks to be considered will include evolutionary, cultural materialist, functionalist, personality and culture. 3 class hours per week.

S03331 Marriage and the Family

A 1-semester course; 3 credit hours. The main focus of this course is the understanding of the relationship between family forms and social structure. This will involve an investigation of human sexuality, interpersonal communication, relationships, marriage, divorce, and alternative forms of family living. 3 class hours per week.

S03333 Contemporary Social Problems

A 1-semester course; 3 credit hours. An analysis of the relationship between social structure and social problems in contemporary society. The course will emphasize: 1) the interdependence of all social problems; 2) the interaction between our institutional forms and social problems; and 3) the relationship between values and social action. May not be offered every semester. 3 class hours per week.

S03343 Juvenile Delinquency

A 1-semester course; 3 credit hours. This course will concern itself with an in-depth study of juvenile delinquency; its various causes, the sociological impact on the community, as well as present rehabilitative efforts which attempt to cope with this serious contemporary problem. May not be offered every semester. 3 class hours per week. **Prerequisite:** S03321 or permission of the instructor.

S03353 Introduction to Criminology

A 1-semester course; 3 credit hours. A survey of the patterns and evolution of adult criminal behavior and juvenile delinquency analyzed in terms of various theories of such behavior; types of crime, and the administration of criminal justice. May not be offered every semester. 3 class hours per week.

S03354 Death and Dying

A 1-semester course; 3 credit hours. America is a death denying society. The hidden aspect of this universal experience has caused untold misery. Openness, honesty, sharing and personal consciousness-raising will enable people to lead richer, happier, more productive lives. Health worker, minister, teachers, police, parents, among others, can benefit from this course. Topics covered include medical definition, historic aspects, children and death, suicide, grief, rituals, and personal acceptance of death. May not be offered every semester. 3 class hours per week.

S03355 Introduction to Social Welfare

A 1-semester course; 3 credit hours. An introduction to social work and human service systems in America. An overview of historical and present characteristics and clinical issues in organizations such as family and child welfare agencies, youth and correctional agencies, child care centers, mental health institutions, and other agencies and services concerned with casework, group work and community organization work. Em-

phasis will be placed on knowledge of agencies and services, as well as worker's role and function in meeting the needs of the client population. 3 class hours per week.

SO3358 Women and Society

A 1-semester course; 3 credit hours. An analysis of the effect of social structure on the position of women in society. Historical, cross-cultural and biological perspectives will be used to explore attitudes toward women and their economic and political positions. Women's issues will be viewed as they parallel general human issues. The course will encourage discussion of the possible effects of women's equality on the social structure of the future. May not be offered every semester. 3 class hours per week.

SO3360 Race & Ethnic Relations

A 1-semester course; 3 credit hours. This course is designed to provide students with a sociological perspective of Race and Ethnic Relations. Sociological concepts such as racism, prejudice, ethnicity, culture, etc. will be defined and explained. A variety of ethnic group experiences will be studied in order to look at their rich and vast contributions to U.S. society. The positive contributions of cultural diversity will also be a major focus of the course. May not be offered every semester. 3 class hours per week.

SO3361 Introduction to Deaf Culture

A 1-semester course; 3 credit hours. This course examines Deaf Culture from a multidisciplinary perspective. The historical treatment of deaf people will be explored along with the sociological and cultural factors that contributed to the depathologizing of deaf individuals and the emergence of Deaf Culture. This will include a discussion of education of the deaf, minority group dynamics, deaf community as a linguistic and cultural minority, and the importance of Deaf Culture (its language, values, traditions and diversity of membership.) Exploration will also include an examination of current cultural and personal attitudes toward Deaf Culture and how these impact education, available vocational opportunities for the deaf, everyday interaction between hearing and deaf culture. 3 class hours per week. **Prerequisite:** Introduction to Sociology, Cultural Anthropology or permission of the instructor.

SPANISH

SP4401/SP4402 Introductory Spanish I & II

A 2-semester course; 3 credit hours per semester. For students who have not completed two years of high school Spanish or the equivalent as determined by the department. Audio-lingual emphasis. Introduction to grammatical patterns, reading and writing. 3 class hours per week.

SP4421 Conversational Spanish I

A 1-semester course; 3 credit hours. Designed primarily for personnel in public service who need basic communication skills when dealing with speakers of Spanish only. Question/answer format; basic dialogue, pattern practices, specialized vocabularies to meet individual needs. Not open to students who have completed SP4401 or to native/near native speakers. (Students should check with the Foreign Language Department Chairperson about transfer status.) 3 class hours per week.

SP4422 Conversational Spanish II

A 1-semester course; 3 credit hours. A continuation of the vocabulary development of Conversational Spanish I with grammatical explanations as appropriate. Question/answer format; basic dialogue, pattern practices, specialized vocabularies to meet individual needs. In addition, cultural readings are introduced. 3 class hours per week. **Prerequisite:** SP4421 or equivalent.

SP4423 Conversational Spanish III

A 1-semester course; 3 credit hours. This course is open to students who have completed a college-level introductory Spanish course. Question/answer format; dialogues, specialized vocabularies to meet specific needs, specialized writing skills introduced. Conducted in Spanish. 3 class hours per week. **Prerequisite:** SP4422 or equivalent.

SP4424 Conversational Spanish IV

A 1-semester course; 3 credit hours. Question/answer format; specialized writing skills, specialized vocabularies to meet specific needs. Conducted in Spanish. 3 class hours per week. **Prerequisite:** SP4423 or equivalent.

SP4451/SP4452 Intermediate Spanish I & II

A 2-semester course; 3 credit hours per semester. For students who have completed two or more years of high school Spanish or the equivalent as determined by the department, or who have completed SP4401 and SP4402. A continued study of language skills, emphasizing the development of reading ability. 3 class hours per week.

SP4461/SP4462 Review & Progress in Spanish I & II

A 2-semester course; 3 credit hours per semester. A review of basic structure, verbs, and related essentials. Intended for native speakers, Hispanic students, majors and non-majors. Strengthens skills in speaking, reading, and writing. Vocabulary and pronunciation improvement; short compositions. Reading and discussion of selected short stories, poetry and folklore. Course tailored to meet individual needs. 3 class hours per week. **Prerequisite:** SP4401 and SP4402 or permission of the instructor.

THEATRE

TH7760 Stagecraft

A 1-semester course; 3 credit hours. Stagecraft is a hands on course in which students will learn about set design and construction, lighting, costumes, properties and stage management by doing a variety of projects aimed toward production in dance, as well as theatre. Script analysis from a production point of view, the hierarchy of personnel, and principals of visual composition and color theory will also be included.

TH7765 Introduction to Theatre

A 1-semester course; 3 credit hours. This course has two general goals. First, to introduce the contemporary theatrical world: playwright, producer, theatre structure, director, actor, technicians and designers. Second, to apply knowledge in a practical experience situation. 3 class hours per week.

TH7768 Scene Study

A 1-semester course; 3 credit hours. Performance class offering in-depth scene and monologue study emphasizing character development and script analysis. Various acting techniques will be discussed and utilized. Course objectives will center on the ability of the students to overcome fears and barriers, the development of confidence in public, and the ability to make creative choices. 3 class hours per week.

TH7769 Acting

A 1-semester course; 3 credit hours. A lecture-performance course designed to familiarize the student with basic acting techniques. Discussion and exercises explore the vocal, bodily, and psychological aspects of acting. Script analysis, characterization, and performance. 3 class hours per week.

TH7775 Fundamentals of Play Production: Directing

A 1-semester course; 3 credit hours. The methods and techniques of directing. Adjunct activities – lighting, design, costume, makeup – are included. After seminars and scenework, students direct short plays. 3 class hours per week.

TH7795 History of Theatre

A 1-semester course; 3 credit hours. A history of Western theatre from Greek to modern times. The focus of this course is on theatre architecture, production methods, acting styles and dramatic writing style in each period discussed. 3 class hours per week.

TH7799 Rehearsal and Performance

A 1-semester course; 3 credit hours. Students in this course constitute an acting ensemble which produces plays. Course work will include historical, structural and character analysis in both pre-rehearsal and rehearsal. Public performances. Critiques of performances. 3 class hours per week. **Prerequisite:** Audition and written permission of instructor.

TRAVEL & TOURISM

TL1001 Intro. to the Travel & Tourism Industry

A 1-semester course; 3 credit hours. This course is designed as an introduction to travel agency operations, policies and procedures. Emphasis will be placed on domestic and international air travel; cruising; railroads, car rentals and charters; hotels; tours and itineraries. Also covered are selling the travel product to the individual, travel agencies and marketing, automation, and travel agency finances. 3 class hours per week.

TL1010 Reservation and Ticketing I

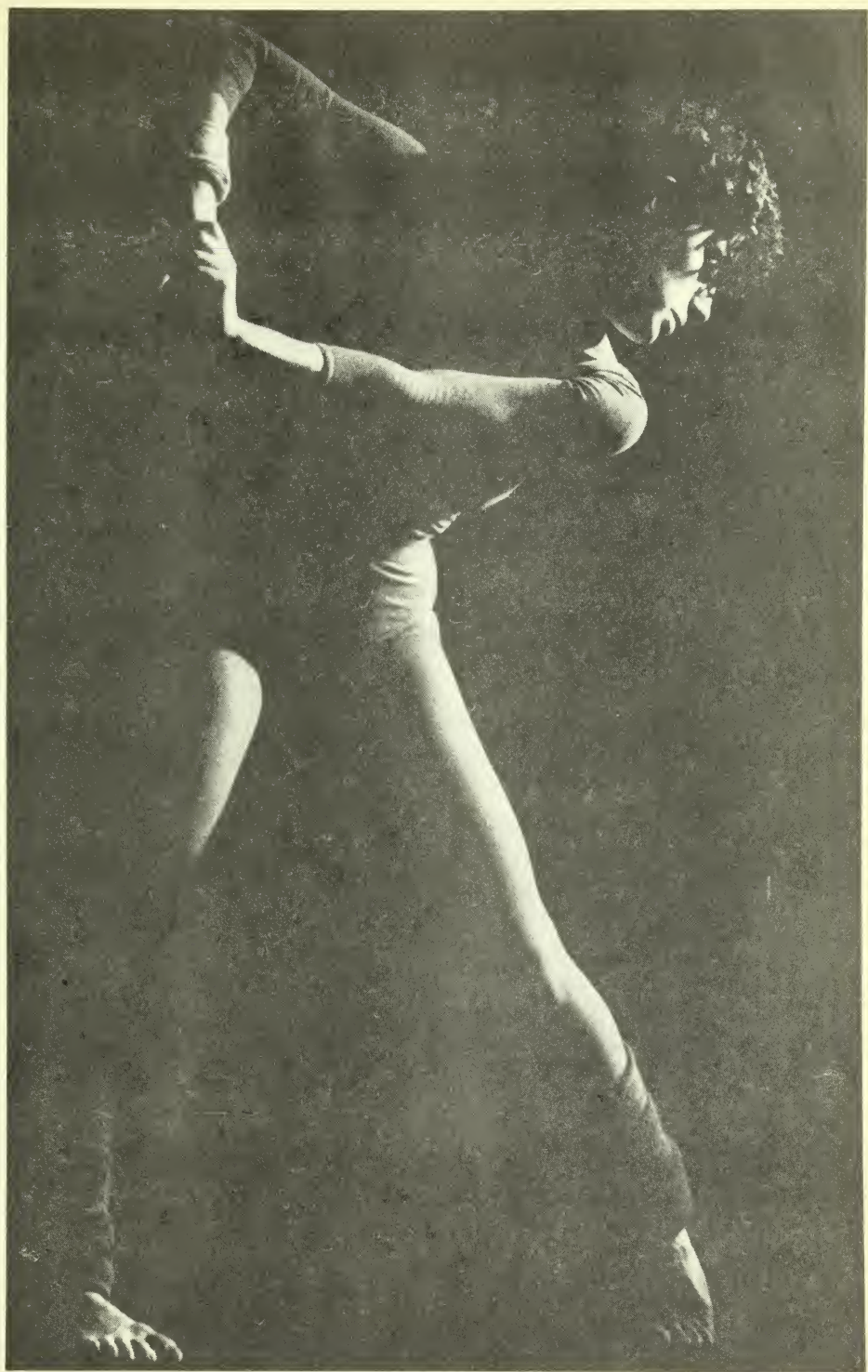
A 1-semester course; 3 credit hours. In this course, students will have the opportunity to develop hands on reservation and ticketing skills on computer terminals. Topics covered include building and Passenger Name Record (PNR); PNR modifications; fare quotes and itinerary pricing; automated airline ticket, boarding pass and invoice preparation; auxiliary reservation services such as car rentals, hotels and cruises; queue system; and client and corporate profiles. 2 class hours and 2 lab hours per week.

TL1015 International & Domestic Destinations

A 1-semester course; 3 credit hours. The continent of North America is studied in depth. Students will develop a sound knowledge of vacation and industrial cities throughout North America. They will also become familiar with important tourist destinations. The climate, culture, modes of transportation and places of interest are emphasized. World geography as it pertains to travel and tourism is studied on the basis of the various continents and how they relate to international travel. 3 class hours per week.

TL1020 Reservation & Field Experience

A 1-semester course; 3 credit hours. This course will cover the more advanced functions of the SABRE reservation system. Topics include itinerary modification, dividing a PNR, ques, direct reference system, auxiliary segments, and STARS. 3 class hours per week.



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Dr. Carter B. Tallman, Nursing

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Linda Gavin, Co-Owner, Clipper City Travel, Newburyport
Wayne Gottwald, Manager, WAL-MART, Plaistow, NH
David Hindle, President, Family Bank, Haverhill
Kevin Kelleher, Employment Manager, Digital Equipment Corp., Littleton
James Kennedy, Area Supervisor, McDonald's, Windham, NH
Alan LaBranche, President, Loral Press, Inc., Atkinson, NH

Thomas Minichiello, President, Minichiello Insurance, Bradford
Tamar Naham, Continental Cablevision, Lawrence
Howard Paul, General Manager, P&T Container Service, Inc., Haverhill
Mary Alice Rock, Owner, Country Travel, West Boxford
Donald Ruhl, President, Chairman, Chamber of Commerce, Haverhill
Paul Ryan, General Manager, Haverhill Gazette, Haverhill
Deborah Scire, Consultant, Windham, NH
Zoe Veasey, Treasurer, Cedardale Athletic Club, Bradford

Cooperative Education Literacy/Community Service

Virginia Behan, Haverhill Public Library, Haverhill
Irene Dumais, AT&T, North Andover
Marcia Hohn, SABES, Northern Essex Community College, Lawrence
Penny Kelley, Northern Essex Community College, Haverhill
Phyllis Licata, Raytheon Company, Andover
Michael Link, Holy Family Hospital
Dick McLaughlin, Lawrence Public Library, Lawrence
Susan O'Neill, Lawrence Public Schools, Lawrence
Kathy Rodger, Director, Northern Essex Community College, Lawrence Campus
Karen Tate, First Essex Savings Bank, Haverhill

Criminal Justice

Vincent D. Basile, Supervisor of Probation Services, Mass. Trial Court, Boston
Leslie Buckley, Office of the Secretary of Public Safety, Boston
Robert Croatti, Assistant Dean, College of Criminal Justice, Northeastern University
Ronald D'Arcangelo, Chief Probation Officer, Newburyport Court
Jonathan Dennis, Chief, Police Department, West Newbury
L. Patrick Fay, President, Bay View Security, Dorchester
Robert E. Hayden, Jr., Chief, Lawrence Police Department
Honorable Kevin M. Herlihy, Presiding Judge, Lawrence District Court
Joseph F. Leone, Special Agent in Charge, U.S. Department of Commerce, Boston
Dr. Joseph Lipchitz, Coordinator, Dept. of Law and Justice, University of Lowell
Bruce MacDougall, Chief, Methuen Police Department
Stephen B. MacKinnon, Chief, Salem Police Department
Honorable Robert Marshall, Salem District Court, Salem, NH
William Moynihan, Chief Probation Officer, Trial Court/Commonwealth, Haverhill
Stephen Noyes, Sergeant, Assistant Troop Commander, NH Troop A, Epping, NH
Michael Roche, Major, Mass State Police, Framingham
Stephen C. Savage, Chief, Plaistow Police Department, Plaistow, NH
Wayne Vetter, Sheriff, Rockingham County, Brentwood, NH
Arthur W. Wiggin, Lieutenant, State Police, Major Crime Unit Commander, Concord, NH
William L. Wrenn, Hampton Police Department, Hampton, NH

Dental Assistant Program

Jesse Balio, CDA, Methuen
Dr. Joseph Beninato, Methuen
Dr. John Doykos, Lawrence
Dr. Joseph Kalil, Methuen
Dr. Rudolph Lantelme, North Andover
Dr. John Lem, Chairperson, Dental Advisory Committee, Lawrence
Judy Marley, Director, ALC, Lawrence
Dr. Philip Minichiello, Haverhill
Amy Ostrander, CDA, Newburyport
Dr. John Rizza, North Andover
Eleanor Singelais, CDA, Derry, NH
Dr. Howard Smith, Methuen
Dr. Louis Stylos, Chelmsford
Dr. Howard Zolot, Andover
Dr. Joseph Beninato, Instructor, Dental Assistant Program

Early Childhood Education

Sydney Bialo, Director, SHED Program, Andover
Maureen Daley, Newburyport Montessori School, Newburyport
Sandra DeVellis, Director, Pentucket Workshop, Georgetown
Nancy Fernandez, Bright Horizons, NECC, Haverhill
Lorraine Gerber, Teacher, Brown School, Newburyport
Kristen Lind, Director, Bright Horizons, Waltham
Maureen Mulcahy, Project Director, Gr. Lawrence Community Council Headstart Program
Helen Murgida, Director, Pentucket Workshop, Georgetown
Sandra Schmuhl, Director, Discovery School, Andover
Sylvia Stephenson, Family Cooperative Preschool, North Andover
Sandra Surette, Cogswell School, Haverhill

Electronic Technology

Daniel Comei, AT&T, No. Andover
W. David Gerns, Datex Medical Institute, Tewksbury
John Iacobucci, Greater Lawrence Voc. Tech, West Andover
George Koontz, Raytheon, Andover
Pamela Landry, Hewlett-Packard Co., West Andover
Mark Marand, Digital Equipment Corp, Boston

Health Information Technology

Michelle Butler, RRA Director, Medical Record Dept., Anna Jaques Hospital, Newburyport
Betty Carroll, RRA, Director, Medical Record Dept., Medical Center of Central Massachusetts
Elizabeth DeSisto, RRA Director, Medical Record Dept., Boston Regional Medical Center, Stoneham
Kathy DiPietro, ART Director, Medical Record Dept., Hale Hospital, Haverhill, MA
Shirley Foret, CTR., Coordinator, Greater Lowell Cancer Program
 Lowell General Hospital, Lowell
Patricia Hebert, ART, Director, Medical Records, Union Mission Nursing Home, Haverhill

Sandra Lucia, ART, Director, Medical Record Dept., Hampstead Hospital,
Deborah Manning, ART, Director, Medical Record Dept.
 Lawrence General Hospital, Lawrence
Steve Molloy, RRA, Director, Patient Information Systems, Holy Family Hospital,
 Methuen
Cheryl Palo, RRA, Director, Medical Record Dept., Emerson Hospital, Concord
Charlene L. Potter, ART, Med. Record Consultant, Liberty Pavillion Nursing Home,
 Danvers
Gloria Swanbon, ART, Director, Quality Assurance & Utilization Review
 Hale Hospital, Haverhill
Roberta Traub, ART, Director, Med. Record Dept., Whittier Rehab, Haverhill
Dorothy Wagg, RRA, JD., Assistant General Counsel, Mass. Hospital Association,
 Burlington
Susan Wilkens, RRA, Director of Medical Records
 Saints' Memorial Hospital, St. Joseph's Campus, Lowell
Pamela Woodman, RRA, Executive Director, Women's Health Care, West Newbury

Human Services Program

Susan Tomaz Alper, Crotched Mountain Residential Services, Plaistow, NH
Arthur Brady, Lawrence Rehabilitation Center, Inc., Lawrence
Jane Bresnahan, Baldpate Hospital, Georgetown
Lucie Cripps, EMARC, Reading
Joseph Freeman, Kimi Nicholes Developmental Center
Robert Keenan, Fidelity House, Inc., Lawrence
Donna Nolan, Dept. of Mental Health, Haverhill
Skip Parks, Harbor Schools, Amesbury
Kenneth Powers, Lowell, MA
Pat Reed, Merrimack Valley Rehabilitation, Goodwill, Lowell
Al Scott, Mental Health Assoc. of Greater Lowell
Sue Taylor, Renaissance Program, Ann Kaplan Center, Lowell
Julie Vaux, Pegasus House, Lawrence
Shelly Washitz, TCA, Haverhill

Life Long Learning Program

Madeline Abati, Methuen
Mary Aherarn, Lawrence
Marjorie Cary, Newburyport
Helen Courcy, Haverhill
Elizabeth Green, Groveland
Mildred Ilsley, Atkinson, NH
Inez Lund, Merrimac
Amy Olenio, North Andover
Connie Ryan, Amesbury
Clare Sullivan, Andover
Evelyn Wales, Groveland
Mary L. Wilkie, Groveland

Medical Assistant

Ann Acker, Massachusetts Training and Development, Lawrence
Edward Atwood, Administrator, Pentucket Medical Associates, Haverhill
Margaret Barnes, CMA, Haverhill
Jean Berni, CMA, Atkinson, NH
James E. Brackbill, MD, Georgetown
Carol Casey, Student Representative, Amesbury
Gerald Casey, Valley Medical Associates, Methuen
Sandra Ebacher, CMA, No. Andover
Glenn Kneeland, MD, Salem, NH
Judy Marley, ALC, Lawrence
Artemas T.W. Packard, MD, Plaistow, NH
Jean Poth, Assistant Dean, Division of Business, NECC
Judith Spero, CMA, Haverhill
Nancy Sweet, CMA, Newburyport, MA
Patricia Vaillancourt, Industrial Services Program,
 Department of Training, Commonwealth of MA, Salisbury
Marilyn Waldrip, CMA, Newburyport
James Walker, MT, Medical Laboratory Manager, Anna Jacques Hospital
James S. White, CRTT, Director of Non-Invasive Services, Hale Hospital
Gabriell Yuil, MD, Lawrence

Nursing

Lisa Abdallah, RN, BSN, Academy Manor Skilled Nursing Home & Retirement Center,
 Andover
Catherine Atwood, RN, Nevins Home for the Aged, Methuen
Linda Best, RN, BSN, MS, MA, Greater Lawrence Family Health Center, Lawrence
Janet Biswanger, RN Blair House, Tewksbury
Diane Borey, RN, MBA, Wingate at Andover, Andover
Margaret Burke, RN, Greater Lawrence Mental Health Center, Lawrence
Margaret Burton, RN, MS, Lawrence Public School System, Lawrence
Maureen Curley, RN, MSN, Anna Jaques Hospital, Newburyport
Sara Sue Dick, RN, BSN, Whittier Rehabilitation Hospital, Haverhill
Susan Fitzpatrick, RN, BSN, University of Mass Medical Center, Worcester
Karen S. Harvey, RN, MSN, VNA Home Care, Andover
Mary Jane Herrmann, Greater Lowell Community Health Center, Lowell
Linda House, RN, AD, Haverhill
Elaine Kirby, RN, MS, CNA, Patient Care Services, Tewksbury Hospital School of
 Nursing
Dr. Gary Kraus, MD, Women's Health Care, West Newbury
Gail LaBrecque, RN, MSN, Patient Care Services, Lowell General Hospital, Lowell
Candice Lee, RN, MSN, Patient Care Services, Hale Hospital, Haverhill
Diane Ludwig, PN Graduate, Greater Lawrence Community Action Council, Inc.,
 Lawrence
Karen Lumb, RN., MS, Patient Care Services, New England Memorial Hospital,
 Stoneham
Martha McDrury, VP/Nursing Services Development/Education, Holy Family Hospital
 & Medical Center, Methuen
Patricia Mirisola, Program Director, Merrimack Valley AHEC, Lawrence
Patricia Moysenko, RN, MSN, Saints Memorial Medical Center, Lowell

Kristi Robins, RN, ADN, Country Manor Nursing Home, Newburyport
Judith Ryan, RN, CNA, BS, Lawrence General Hospital
Nancy Sharp, Mary Immaculate Health Care Services, Lawrence
Debra Willard, RN, BSN, Children's Extended Care Center, Groton

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Donna Bourassa, Bradford
Bryna DePrato, Esq.
Frank A. DePippo, Esq., Hampton, NH
Teresa Giuffre, Lawrence
Virginia Keaten, Esq., Andover
Betsy Kimball, Paralegal, Atkinson, NH
Honorable Robert D. Marshall, Salem District Court, Salem, NH
Kathryn B. McCarthy, Donahue & Donahue, Lowell
Thomas McGowan, Director of Guidance, Haverhill High School, Haverhill
Leslie Orlando, Boston
Anthony Ortiz, Esq.
Herbert Phillips, Esq., Haverhill, Chairman
Mayte Ramos, Lowell
Donald Ruhl, President, Greater Haverhill Chamber of Commerce
John J. Ryan, 3rd, Esq., Haverhill

Radiologic Technology

Nancy Ditullio, RT(R), Ass't Radiology Manager, Lahey Clinic Medical Center, Burlington
Donald Kalapinski, RT(R), Radiology Manager, Hale Hospital, Haverhill
Peter T. Koch-Weser, MD, Program Medical Director, Lowell General Hospital, Lowell
Brenda Lockwood, RT(R), Radiology Manager, Salem Radiology, Salem, NH
John Mason, MS, Professor of Radiologic Science, NECC
Andrew McLaughlin, RT(R), Radiology Manager, Anna Jaques Hospital, Newburyport
Kathryn Miller, RT(R), Radiology Manager, Holy Family Hospital, Methuen
Michelle O'Brien, RT(R), Radiology Manager, Lowell General Hospital
Michael O'Keefe, Chief Technologist, Hale Hospital, Haverhill
Debbie Ralls, RT(R), Radiology Manager, Lawrence General Hospital, Lawrence
Elected Student Representatives

Respiratory Care

Michael Adams, RRT, Respiratory Therapy, So. NH Regional Medical Center, Nashua
Ed Aiello, RRT, Respiratory Therapy, St. Joseph's Hospital, Nashua, NH
Donald Bisson, CRTT, Respiratory Therapy, Nashua Memorial Hospital, Nashua, NH
Steve Capistran, RRT, Respiratory Therapy, So. NH Regional Medical Center, Nashua
Ed Deschuytner, Science Curriculum Advisor, NECC
William Desmarais, RRT, Home Care, Haverhill
Charlotte Elliott, RRT, Primacare Health Resources of NH, Litchfield, NH
Caroline Faulkingham, CRTT, SStaff Therapist, Exeter Hospital, Exeter, NH
William Goding, RRT, Division Chairperson, No. Shore Community College, Danvers
Gary Lee, RRT, Respiratory Therapy, Holy Family Hospital, Methuen
William Lester, CRTT, Staff Therapist, Burbank Hospital, Fitchburg

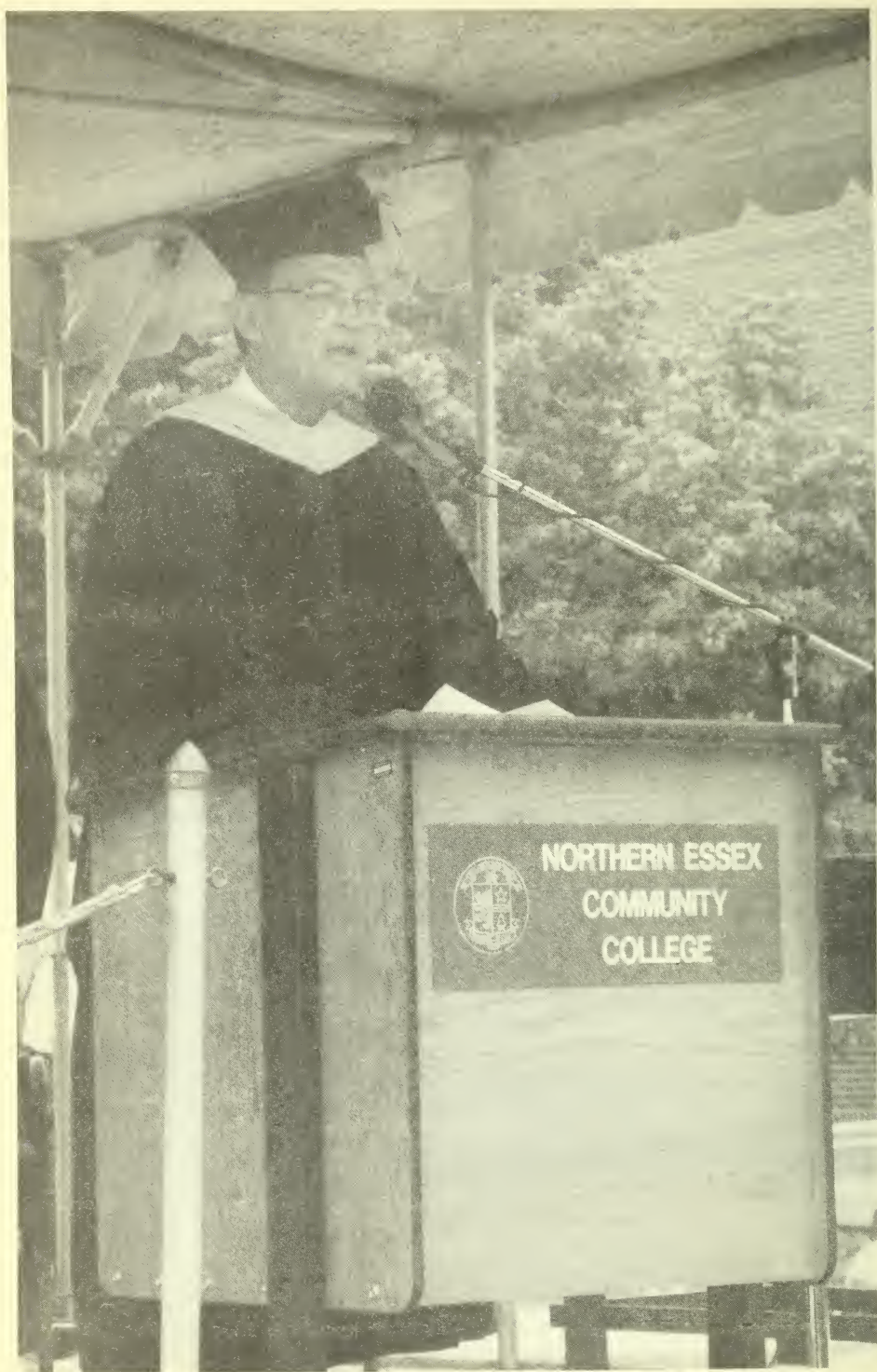
Madeline MacCallum, RRT, Respiratory Therapy, Saints Memorial Medical Center, Lowell
Marsha Oates, CRTT, Respiratory Therapy, New England Memorial Hospital, Stoneham
Don Pare, RTT, Respiratory Therapy, Franciscan Children's Hospital, Brighton,
Bruce Randall, RRT, Respiratory Therapy, New Eng. Memorial Hospital, Stoneham
John Reddy, RRT, Director, Cardiopulmonary Care, Advants Health, Inc., N. Reading
Suzanne Russell, CRTT, Respiratory Therapy, Manchester, NH
Jackie Ryder, RRT, Respiratory Manager, Saints Memorial Medical Center, Lowell

Sign Language Interpreter

Diane Aseltine, President, NHRID, Manchester, NH
Tom Boudreau, Business Manager, MSAD, Malden
Yvonne Dunkle, President, MSAD, Malden
Judith Good, Director, NEHD, Danvers
Chet Hawrylcw, Assistant Dean, Humanities Division, NECC
Dr. Robert Hoffmeister, Boston University School of Education, Boston
Nancy Liszka, Interpreting, Northeast Independent Living Program, Lawrence
Edward Mulligan, EDCO Secondary Education, Hearing Impaired Prog., Newtonville
Heidi Reed, Executive Director, Deaf, Inc., Allston
Dee Reisley, MCDHH, Boston
Kellie Mills Stewart, President, MRID
Peggy Verdi, Skills Instructor, Northeast Independent Living Program, Lawrence
Kathy Vesey, Director, Gallaudet Regional Center
Patti Wilson, House Director, NSARC, Salem, MA

Teacher Preparation

Arthus Barlas, Professor, NECC, Haverhill
Samantha Benson, Teacher, Masconomet Regional High School, Topsfield
Bonnie Coltin, Teacher, Haverhill High School, Haverhill
Rosemarie Dittmer, Teacher Prep Program Coordinator, NECC, Haverhill
David Donavel, Teacher, Masconomet Regional High School, Topsfield
Mary Beth Exner, Teacher, Amesbury, High School, Amesbury
John Housianitis, Teacher, Central Catholic High School, Lawrence
Robert Kynor, Director of Guidance, Amesbury High School, Amesbury
Holly Lay, First Year Student, Teacher Prep Program, Merrimac
Wendy Lehman, Graduate, Teacher Prep Program, Groveland
Christine Levesque, Returning Student, Teacher Prep Program, Lawrence
Dr. Patricia O'Malley, Teacher, Bradford College, Bradford
Mark Powers, Guidance Counselor, No. Andover Middle School, North Andover
Janice Ryan, Assistant Principal, Arlington School, Lawrence
Gerald Silverman, Acting Principal, Salem High School, Salem
William Simmons, Student, NECC
Graciella Trilla, Haverhill High School, Haverhill
Usha Sellers, Assistant Dean, Division of Social Sciences, NECC



Emeriti

Harold Bentley,* *Ph.D., President Emeritus*

Elizabeth Arnold, *Professor Emerita of English*

Donald Conway, *Professor Emeritus of Foreign Languages*

Richard Ellis,* *Professor Emeritus of Mathematics*

John L. Finneran, *Ph.D., Professor Emeritus of Natural Sciences*

Corinne Grise, *Ed.D., Assistant Dean Emerita of Mathematics, Science & Technology*

Dolores Haritos, *Ed.D., Director Emerita of Nursing Education*

Donald G. Horgan,* *Professor Emeritus of Business Administration (posthumous)*

Roland Kimball, *Professor Emeritus of English*

Rochelle Newman, *Professor Emerita of Creative Arts*

Donald Pailes,* *Professor Emeritus of Mathematics (posthumous)*

Margaret Raney,* *Professor Emerita of Office Technology (posthumous)*

John H. Spurk,* *Ph.D., Professor Emeritus of History, Government & Foreign Languages*

Olga Williams, *Chairperson Emerita of Business*

Duane Windemiller, *Ph.D., Professor Emeritus of Behavioral Sciences*

Clarence Wood,* *Ph.D., Professor Emeritus of Behavioral Sciences*

*deceased

Professional Staff

- Edward Accomondo**, *Director* (part-time), Private Sector Fund Raising; M.B.A, B.B.A., B.S., University of Massachusetts, Amherst
- Melba Acevedo**, *Staff Assistant* (part-time), Division of Instructional Development; B.S., Salem State College; A.C., University of Puerto Rico
- Charles L. Adie**, *Professor*, Department of Mathematics; B.S., University of Notre Dame; M.A., Boston College
- Laura Archambault**, *Assistant Librarian* (part-time); B.A., Northeastern University
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- Jack L. Aronson**, *Professor*, Department of English & Foreign Languages; A.B., A.M., Boston University, A.M.T, Harvard University; B.J.Ed., Hebrew Teacher's College; Ed.D., Boston University
- Rose M. Arruda**, *Assistant Director*, Admissions; A.S., Bristol Community College; B.A. University of Massachusetts - Dartmouth; M.Ed., Bridgewater State College
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- Priscilla B. Bellairs**, *Chairperson*, Department of English & Foreign Languages; A.M., Harvard University; B.A., Michigan State University
- Patricia Belmont**, *Director*, Assessment Center, Division of Instructional Support Services; A.A., Northern Essex Community College; B.A., Merrimack College; M. Ed., University of Lowell
- Lawrence Bernstein**, *Psychologist* (part-time), Counseling Office; B.A., University of Massachusetts; M.Ed., Ph. D., University of Pittsburgh
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- Paula A. Boxer**, *Professor*, Department of English & Foreign Languages; A.B., Tufts University; A.M., Boston University

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- Mary Crowley**, *Assistant Professor*, Licensed Practical Nursing; B.S. Ed., Fitchburg State College; M.S.Ed, Fitchburg State College
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- Ernestine Greenslade**, *Director*, Public Information; B.A., Marietta College
- Angela Guarino**, *Coordinator/Staff Assistant* (part-time), Division of Instructional Support Services; B.A., M.A., University of Massachusetts, Lowell; M.A.
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- James W. Gustafson**, *Professor*, Department of Creative Arts, Philosophy & Religion; A.B., Wheaton College; B.D., Fuller Theological Seminary, Ph.D., Boston University
- Elaine M. Haddad**, *Professor*, Registered Nursing; R.N., Lawrence General Hospital; B.S., M.S., Boston College
- Joan Hagopian**, *Coordinator*, Medical Assistant Program; B.S., M.Ed., Fitchburg State College
- Thelma L. Halberstadt**, *Chairperson*, Department of Registered Nursing; R.N., B.S., Plattsburg State Teacher's College; M.S., University of Rhode Island; Ed.D., University of Massachusetts

- Sylvia Hallsworth**, *Director*, Center for Nursing Education; R.N., A.S., Northern Essex Community College; B.S., Lowell State College; M.S., Boston University, Ed.D., University of Massachusetts at Amherst
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- Donna Rapa**, *Stenographer II*, Secretarial Support Center
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Lisa Ross, *Stenographer II* (part-time), Assessment Center
- Ellen Ruhl**, *Technical Assistant* (part-time), Division of Instructional Support Services; A.A., Colby-Sawyer College; B.S., Tufts University; M.A., University of Massachusetts, Lowell
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- Cynthia Sawyer**, *EDP Programmer III*, Computer Services; B.S., New Hampshire College
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- Iline Sirois**, *Accountant II*, Bursar's Office
- Lori Smerdon**, *Stenographer II* (part-time), Assistant to the President for Private Sector Fund Raising
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James Yurik, *Plumber/Steamfitter*, Maintenance



Northern Essex Community College Academic Calendar 1995-1997 *

FALL 1995	Sept 4	Labor Day Holiday
	Sept 5	All College Day Professional Activities
	Sept 6	Day and Evening classes begin
	Oct 9	Columbus Day Holiday
	Oct 30	Second eight week courses begin
	Nov 10	Veterans' Day Holiday
	Nov 23-24	Thanksgiving recess
	Dec 16-22	Final examination/Final class meeting period
	Dec 28	Fall grades due at Registrar's Office by 4 pm
SPRING 1996	Jan 15	Martin Luther King Day Holiday
	Jan 19	All College Day Professional Activities
	Jan 22	Day and evening classes begin
	Feb 19	Presidents' Day Holiday
	Mar 17-23	Spring vacation/no classes
	Mar 17	Evacuation Day Holiday
	Mar 25	Second eight week classes begin
	Apr 15	Patriots' Day Holiday
	May 9-15	Final examination/Final class meeting period
	May 22	Final grades due at Registrar's Office by 4 pm
	May 23	Awards Convocation
	May 27	Memorial Day Holiday
SUMMER 1996	May 20	Session I classes begin
	May 27	Memorial Day Holiday
	June 1	Commencement
	June 1	Session II classes begin
	June 13	Session I classes end
	June 18	Session III classes begin
	June 18	Session IV classes begin
	July 25	Session III classes end
	Aug 8	Session IV classes end
	Aug 10	Session II classes end
FALL 1996	Sept 2	Labor Day Holiday
	Sept 3	All College Day Professional Activities
	Sept 4	Day and evening classes begin
	Oct 14	Columbus Day Holiday
	Oct 28	Second eight week courses begin
	Nov 11	Veterans' Day Holiday
	Nov 28-30	Thanksgiving Recess
	Dec 16-21	Final examination/Final class meeting period
	Dec 26	Fall grades due at Registrar's Office by 4 pm
SPRING 1997	Jan 20	Martin Luther King Day Holiday
	Jan 24	All College Day Professional Activities
	Jan 27	Day and evening classes begin
	Feb 17	Presidents' Day Holiday
	Mar 17	Evacuation Day Holiday
	Mar 16-22	Spring vacation/no classes
	Mar 24	Second eight week classes begin
	Apr 21	Patriots' Day Holiday
	May 12-17	Final examination/Final class meeting period
	May 21	Final grades due at Registrar's Office by 4 pm
	May 22	Awards Convocation
	May 26	Memorial Day Holiday
	June 4	Commencement

*Subject to Change

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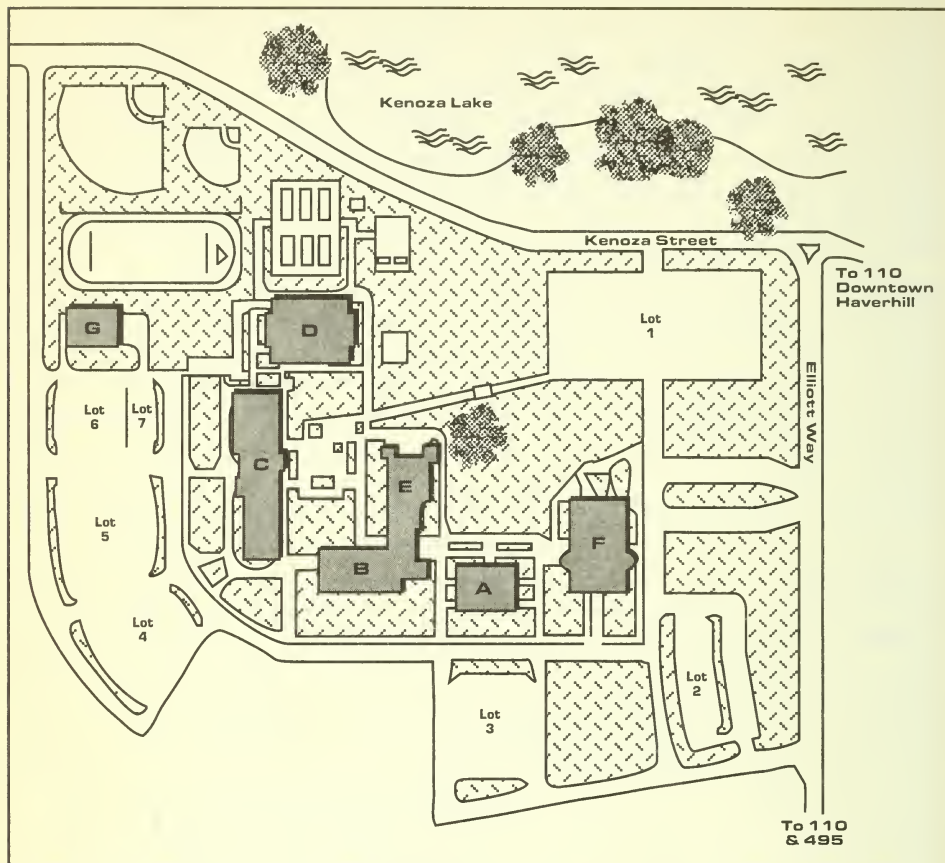
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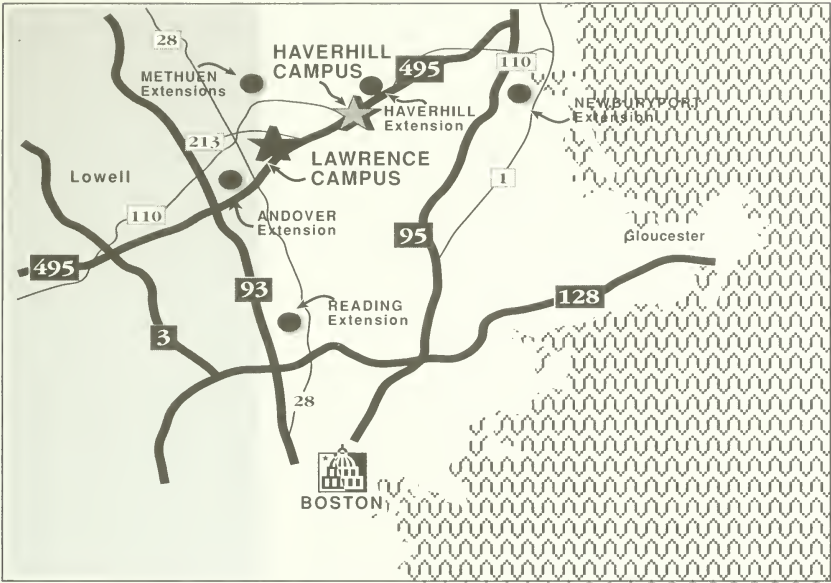
Haverhill Campus Map



Haverhill Campus

- A Harold Bentley Library
- B Applied Science Building
- C John H. Spurr Building
- D Gymnasium
- E Science Building
- F Student Center
- G Maintenance

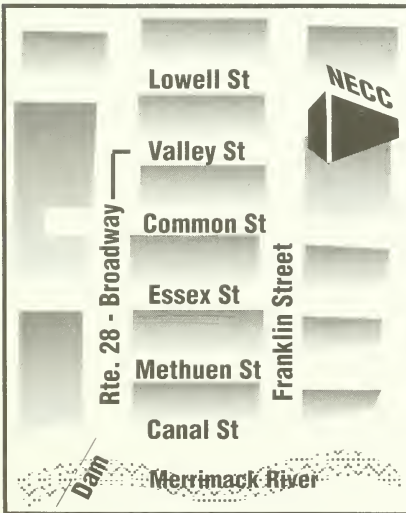
Directions to Northern Essex



The Haverhill campus is located just off route 495 at exit 52.

From the south, take exit 52, turn left on route 110. College is next left. From the north, take exit 52, turn right on route 110. College is next left after entrance/exit ramps for 495.

Lawrence Campus Directions



Located at 45 Franklin Street in Lawrence.

From route 495 north or south, take exit 41 (route 28) toward Lawrence. Follow route 28 north for 2.4 miles. Turn right on Valley Street and continue straight ahead into the Lawrence campus parking lot.

From route 93 north or south, take exit 46 (route 110). Proceed on route 110 (which becomes Haverhill Street) toward Lawrence. Turn right on route 28 and take the fourth left onto Valley Street. Continue straight ahead into the Lawrence campus parking lot.

Northern Essex

Community College



Haverhill Campus

Elliott Way, Haverhill, MA

Just off Route 495 at Exit 52

Lawrence Campus

45 Franklin Street, Lawrence, MA

2.4 miles off Route 28 at Exit 46